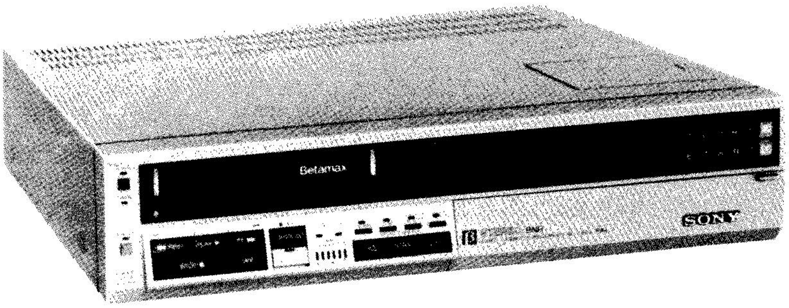
SL-C9ES
RMT-212

SERVICE MANUAL

West Germany Model



711 D SYSTEM

November, 1982

SPECIFICATIONS

Also refer to ADJUSTMENT MANUAL.

System

Video recording system	Rotary two-head helical scanning
Video signal	CCIR standards, PAL colour
Aerial input	75-ohm, asymmetrical aerial socket
Zweiton system	Two-carrier system
Channel coverage	VHF: Western European channels E2—12 UHF: Western European channels E21—68 (Up to 30 stations can be preset.)
RF output signal	UHF channels E30 to E39 (variable) 75 ohms, unbalanced

Video

Input	VIDEO IN: BNC connector 1 V p-p $^{+1.0}_{-0.5}$ V p-p 75 ohms unbalanced, sync negative
Output	VIDEO OUT: BNC connector 1.0 V (p-p) ±0.1 V (p-p) 75 ohms unbalanced, sync negative
Horizontal resolution	Colour: 260 lines B/W: 300 lines
Signal-to-noise ratio	Colour: Better than 40 dB B/W: Better than 43 dB

Audio

Input	AUDIO IN: phono jacks 47 kilohms, −10 dBs (0 dBs = 0.775 V rms) MIC: mini jacks −60 dBs, suitable for microphones with 600 ohm impedance
Output	AUDIO OUT: phono jacks Load impedance less than 10 kilohms −5 dBs with 47 kilohms load unbalanced
Frequency response	50 Hz to 10 kHz
Signal-to-noise ratio	Better than 43 dB (BNR ON)
Audio distortion	Less than 4% at 400 Hz

Tape transport

Tape speed	18.73 mm/sec.
Maximum recording time	2 hours 10 min. (with Sony L-500 cassette) 3 hours 15 min. (with L-750)
Fast forward/rewind time	Within 3½ min. (with L-500)

Timer

Clock	Crystal lock
Control time	24-hour cycle
Timer setting	Only for recording 9 events within 14 days can be set.
Power back-up	Incorporated self-charging battery Back-up duration: up to 5 minutes at one time (after the battery has been charged at least 30 hours).

— Continued on next page —

MICROFILM

Beta

VIDEO CASSETTE RECORDER

SONY®

Consumer VIDEO

General

Power requirements	110–240 V ac ±10%, 50/60 Hz
Power consumption	35 W
Storage temperature	–20°C to +65°C (–4°F to +149°F)
Operating temperature	5°C to 40°C (41°F to 104°F)
Dimensions	Approx. 430 × 105 × 362 mm (w/h/d) (17 × 4¼ × 14⅜ inches) including projecting parts and controls
Weight	Approx. 10 kg (22 lbs 1 oz) net

Accessories supplied

75-ohm coaxial cable for recorder to TV connection	1
Remote control unit RMT-212 with two size AA batteries	1
RF channel adjustment tool	1
Betamax video cassette tape	1

Design and specifications subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

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FEATURES

Space-saving front loading design

Stereo and bilingual programmes
Stereo and bilingual programmes can be recorded and played back. With a bilingual programme, the language which you want to listen to is selected by the BILINGUAL SELECT switch.

Ease of operation
Recording can be made by simply inserting a video cassette and depressing one button.
Feather-touch logic-controlled function buttons switch the recorder directly from one mode to another.

Variable playback speed
Tape speed can be changed to any of these modes: still, frame-by-frame advance, slow-motion and double speed.

Unique picture search function
To locate a particular portion rapidly, the tape may be advanced or rewound at high speed while it displays the pictures on the TV screen.

Timer recording
With the aid of the built-in digital timer, a TV programme can be recorded while the recorder is unattended. Recording may be started at any time and stopped after a predetermined interval on any of the next fourteen days. In addition, programming of up to 9 timer settings is possible.
The timer is simple to set.

Easy tape location
APS function: To locate the starting point of any recorded programme.
GO TO ZERO function: To locate any point on a tape for repeat viewing of a particular scene.

Audio dubbing—an audio programme can be added to any existing video recording.
Remote control—with the supplied remote control unit, tape transport can be remotely controlled.
14-pin camera connector—when connecting a Sony video camera equipped with the K-type connector, a single cable can be used for the video, audio and tape run/stop signals, as well as for camera power.

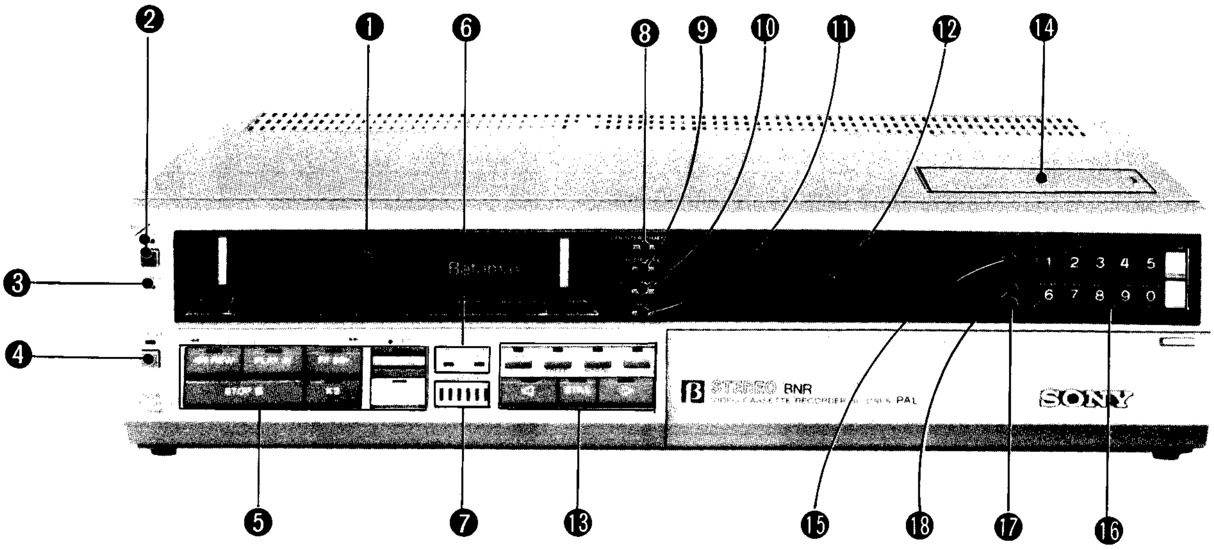
WARNING

To prevent fire or shock hazard, do not expose the set to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

LOCATION AND FUNCTION OF CONTROLS

Front panel



❶ Cassette compartment
Insert a cassette to be recorded or played back after turning on the recorder.

❷ ON/STANDBY button and lamp
Press to turn on the unit after depressing the POWER switch to ON. The lamp will light up. Press again so that the recorder is in the standby mode and the lamp goes off.
The timer section will continue to operate and the time will be displayed even if the ON/STANDBY button is off so long as the POWER switch is depressed to ON.

❸ TIMER lamp
This lamp lights up when the TIMER REC button is pressed to activate the timer recording standby mode.

❹ EJECT button and lamp
Press to remove the cassette.
This button does not function when the recorder is turned off.

❺ Function buttons

▶ PLAY button:	Press to play the tape back.
◀◀ REW button:	Press to rewind the tape. Also used for the reverse picture search operation.
▶▶ FF button:	Press to advance the tape rapidly. Also used for the forward picture search operation.
■ STOP button:	Press to stop the tape.
×2 button:	Press to obtain a double-speed playback picture.
● REC button:	Press to start recording.
❙❙ PAUSE button:	Press to stop the tape for a moment during recording or playback. A still picture will be seen during playback. Press again to release the pause mode.

❻ AUDIO DUB CH-1/L and CH-2/R lamps
These lamps light up when the AUDIO DUB buttons behind the front panel is pressed.

❼ TAPE REMAINING indicator
This shows the amount of tape remaining.

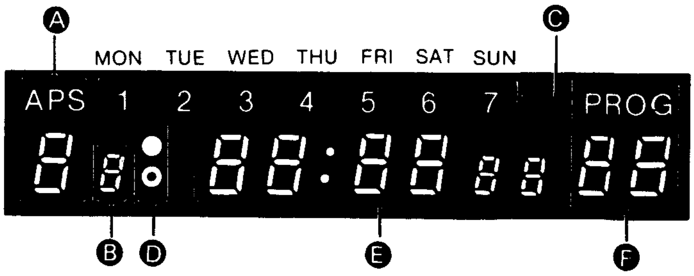
❽ COUNTER/TIMER select button
This is used to select either clock or time counter display.
Press the button to set the display to time counter. Press it again to reset to clock.

❾ COUNTER RESET button
Press to set the time counter reading to "0:00oo".

❿ GO TO ZERO button
Press this button in the stop mode to return the tape to the "0:00oo" point on the time counter.
● To activate the GO TO ZERO function, press the COUNTER/TIMER button to set the display to time counter.

⓫ APS button
Press to activate the Automatic Programme Search function and to set the number of the recorded programme you want to view. The selected number will be displayed on the time display.
If it is known, the present selection number will appear when this button is pressed once.

⓬ Time display
This indicates the present time. When the COUNTER/TIMER button is pressed when the recorder is on, the display shows the tape running time at the normal playback speed. To revert to the time display, press the button again. The display always shows the present time when the recorder is turned off.
Timer programmes, programme number and APS number are shown here.



Ⓐ APS indication and number: The "APS" indication appears when the APS button is pressed. The number shows the present APS number or the number selected with the APS button.
Ⓑ Event number
Ⓒ Day of week indications: Show the day of the week or days the timer-activated recording will take place. The boxed numbers show the second week.
Ⓓ Turn-on and turn-off setting indications: The "●" mark shows you are setting the turn-on time and the "O" mark shows the turn-off time.
Ⓔ Time and counter display: Shows the clock time. When the COUNTER/TIMER button is pressed to COUNTER, the display shows the counter number.
Ⓕ Programme number: Shows the programme number selected with the programme select buttons.

⑬ SPEED CONTROL buttons

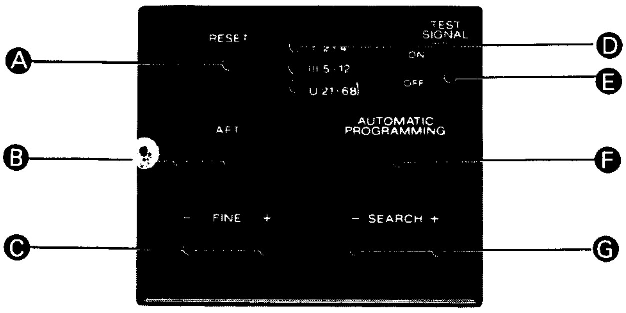
FRAME, 1/10, 1/5 and 1 buttons: Select the speed of the speed control playback.

▷ and ◁ buttons: Select the direction of the speed control playback: ▷ for forward, ◁ for reverse direction.

STILL button: Press to momentarily stop the tape motion.

⑭ Tuning compartment

All the switches and buttons for presetting stations are in this compartment.



Ⓐ RESET button: To clear the preset station, press this button.

Ⓑ AFT button and ON lamp: After the station presetting is finished, the ON lamp lights.
This button is automatically set to OFF (and the lamp goes off) when the FINE buttons are pressed.

Ⓒ FINE + and − buttons: Press to fine tune the station.

Ⓓ Tuning indicator: Indicates the approximate position of the tuned station within the tuning band scanned.

Ⓔ TEST SIGNAL switch: Set to ON to obtain a test pattern.

Ⓕ AUTOMATIC PROGRAMMING button and lamp: To preset the receivable stations automatically, press this button. The corresponding lamp blinks during automatic and manual programming.

Ⓖ SEARCH + and − buttons: Press to tune in a station. Press the − button to get a station of lower frequency and the + button to get a station of higher frequency.

⑮ Remote control detector

Point the infrared transmitter of the supplied remote control unit here.

⑯ Programme select buttons

Select the number of the programme to be recorded or to be viewed. The selected programme number will appear on the display window.

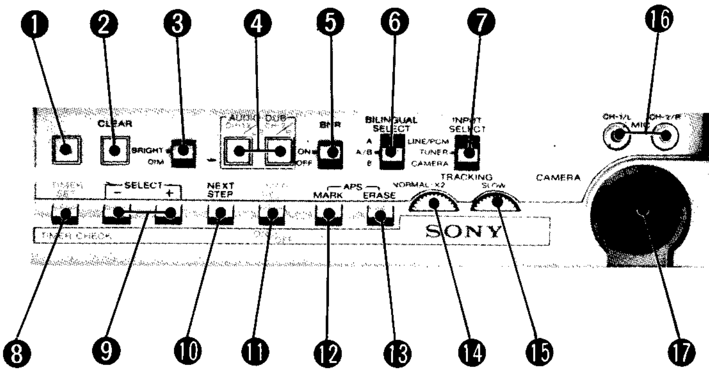
⑰ BILINGUAL lamp

Lights up when a bilingual programme is received, when a tape recorded in bilingual is played back or when the PILOT SIGNAL switch is set to BILINGUAL.

⑱ STEREO lamp

Lights up when a stereo programme is received, when a tape recorded in stereo is played back or when the PILOT SIGNAL switch is set to STEREO.

Behind the front panel



① CLOCK SET button

Press to set the clock.

② CLEAR button

Press to clear the timer programme memorized.

③ BRIGHT/DIM switch

Select the brightness of the time display.

④ AUDIO DUB buttons

Press to record new audio on a tape on which the video programme has been previously recorded. Press the CH-1,2/L,R button to replace all the previously recorded sound.

Press the CH-2/R button to replace the audio of channel 2 with new sound.

⑤ BNR (Beta Noise Reduction) switch

ON: To record and playback sound with the BNR system

OFF: To record and playback sound without the BNR system

⑥ BILINGUAL SELECT switch

When a bilingual programme is received or when a programme recorded in bilingual is played back, set this switch as follows.

To record or play back the local language......set to A

To record the local and original languages and play back the local language or the original language or both languages simultaneously......set to A/B

To record or play back the original language......set to B

⑦ INPUT SELECT switch

Select the programme to be recorded

LINE/PCM: for recording signals connected to the VIDEO IN and AUDIO IN jacks.

TUNER: for recording TV programmes

CAMERA: for recording camera signals connected to the CAMERA connector.

⑧ TIMER SET/TIMER CHECK button

Press to set the timer for recording.

To check the contents of a timer programme, press this button.

⑨ SELECT + and − buttons

Used to set the clock time, the day of the week and timer programmes.

⑩ NEXT STEP button

Used for memorizing the clock time, the day of the week and timer programmes set by the SELECT buttons.

⑪ TIMER REC button

Press to activate the timer recording standby mode. The TIMER lamp will light up.

⑫ APS MARK button

Press to record a cue signal at the desired point on the tape for the APS operation.

⑬ APS ERASE button
Press to erase the cue signal recorded on the tape.

⑭ TRACKING NORMAL/x2 control
Turn to eliminate the streaks or snow in a double speed playback picture or for playback of a cassette recorded on another video cassette recorder.

- Return the control to its centre position after viewing the particular cassette.

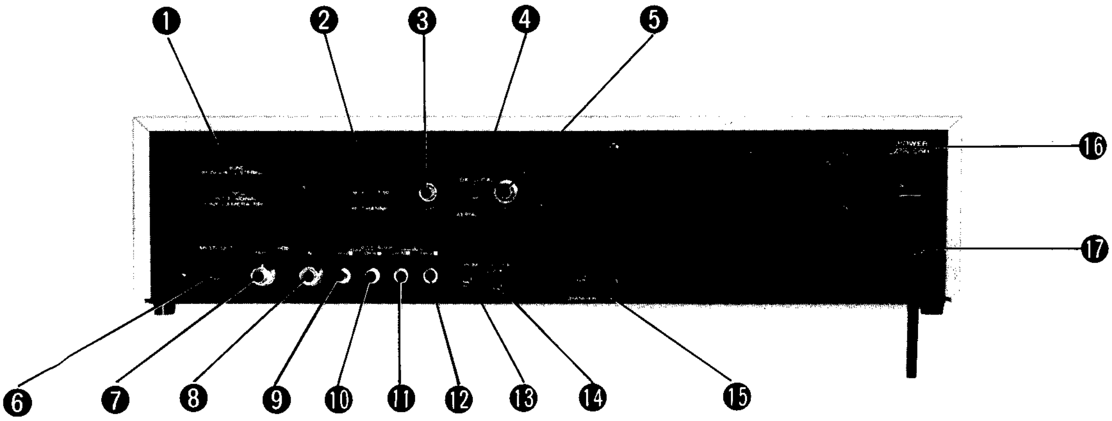
⑮ TRACKING SLOW control
Turn to eliminate the streaks or snow in a still, a frame-by-frame or slow motion playback.

- Return the control to its centre position after playback.

⑯ MIC jacks
Connect low impedance microphones. The microphone connected to the CH-1/L jack is recorded on channel 1, and the microphone on the CH-2/R jack is recorded on channel 2.

⑰ CAMERA connector (14-pin, K-type)
Connect a video camera, such as a HVC-4000P.

Rear panel



① PILOT SIGNAL switch
When the INPUT SELECT switch is set to the LINE/PCM or CAMERA position, set this switch as follows.
For monaural recording......set to MONO
For stereo recording......set to STEREO
For bilingual recording......set to BILINGUAL
When this switch is set to STEREO, the STEREO lamp lights up and when this switch is set to BILINGUAL, the BILINGUAL lamp lights up. During the playback of a recorded tape, the position of this switch does not matter.

② RF CHANNEL screw
If there is interference on the factory preset channel for RF output and the signal of this recorder unit cannot be displayed clearly on the TV screen, adjust this screw with the supplied screwdriver.

③ AERIAL OUT socket
Connect the aerial input of the TV receiver using the supplied cable.

④ DX/LOCAL switch
Normally set this switch to DX. If the TV signal is very strong, set the switch to LOCAL.

⑤ AERIAL IN socket
Connect the aerial cable.

⑥ MULTI OUT connector (8-pin)
Connect the multi input of a colour monitor, such as the Sony KX-20PS1, or a TV receiver such as the Sony KV-2212ES, with VK-2D multi cable (optional).

⑦ VIDEO OUT jack (BNC type)
Connect to the video input of another video cassette recorder or of a video monitor.

⑧ VIDEO IN jack (BNC type)
Connect to the video output of a camera, another video cassette recorder, etc.

⑨ AUDIO OUT CH-2/R jack (phono type)
Connect to the right input jack of an audio system, a video monitor or a video cassette recorder.

⑩ AUDIO OUT CH-1/L jack (phono type)
Connect to the left input jack of an audio system, a video monitor or a video cassette recorder.

⑪ AUDIO IN CH-2/R jack (phono type)
Connect to the right output jack of a cassette recorder or an audio amplifier, or to the audio output of a camera or another video cassette recorder.

⑫ AUDIO IN CH-1/L jack (phono type)
Connect to the left output jack of a cassette recorder or an audio amplifier, or to the audio output of a camera or another video cassette recorder.

⑬ PCM switch
Normally set to the right position. For PCM recording and playback using a PCM adaptor, set this switch to the left position.

⑭ TV VERT LOCK (TV vertical lock) control
If a jitter appears in the still, frame-by-frame or slow motion picture, first obtain a still picture and turn this control until the picture is stable.

⑮ CHANGER connector
Used to connect an auto cassette changer which will be available in the near future.

⑯ POWER switch
This is the mains power on/off switch. Keep this button depressed so the timer section will stay active even after the ON/STANDBY button is off. When this switch is released (OFF), the present time and timer settings are all cleared.

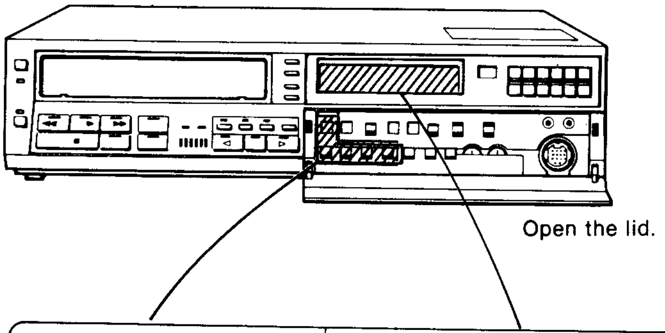
⑰ AC mains lead

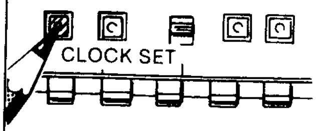
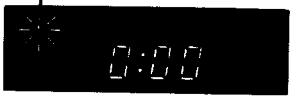
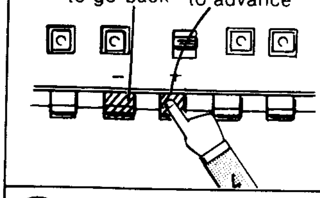
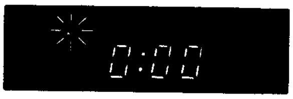
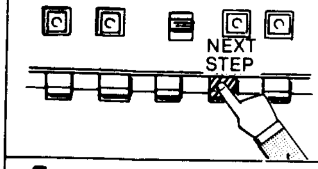
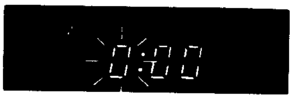
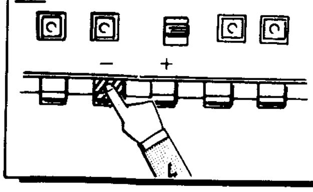
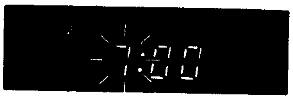
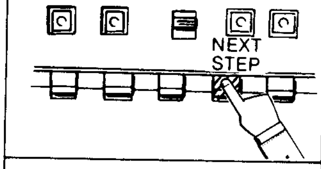
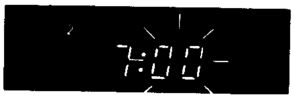
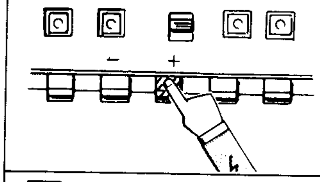
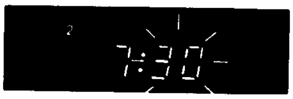
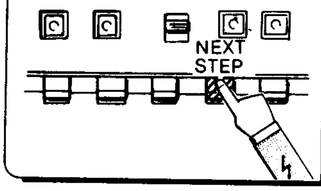
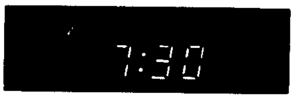
CLOCK SETTING

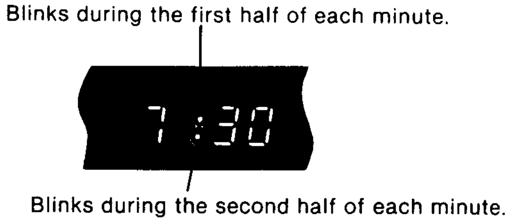
Example: To set the clock to **7:30 on Tuesday.***

***Day indication**

1	Monday	5	Friday
2	Tuesday	6	Saturday
3	Wednesday	7	Sunday
4	Thursday		



Button to be pressed	Time display
1 Keep pressed more than a second. 	Display blinking indicates the segment to be set. 
2 Set the day of the week. to go back to advance 	
3 When today's day is displayed, 	
4 Set the hour digit(s). 	
5 When the current hour is displayed, 	
6 Set the minute digits. 	
7 With the time signal 	The clock now starts operating, showing the correct time. 


Blinks during the first half of each minute.
7:30
Blinks during the second half of each minute.

The + and – buttons can be pressed in two ways:
When you hold a button down, the segments will be advanced continuously until the button is released.
When you press and immediately release a button, the segment will be advanced by one.

Zero second adjustment
Press the CLOCK SET button quickly (less than a second).
While the upper dot is blinking, the clock is set to the time displayed 00 second. For example, if the clock time is 7:30, it is set to 7:30, 00 second.
While the lower dot is blinking, the clock advances one minute and is set to the time displayed 00 second. For example, if the clock time is 7:30, it is set to 7:31, 00 second.

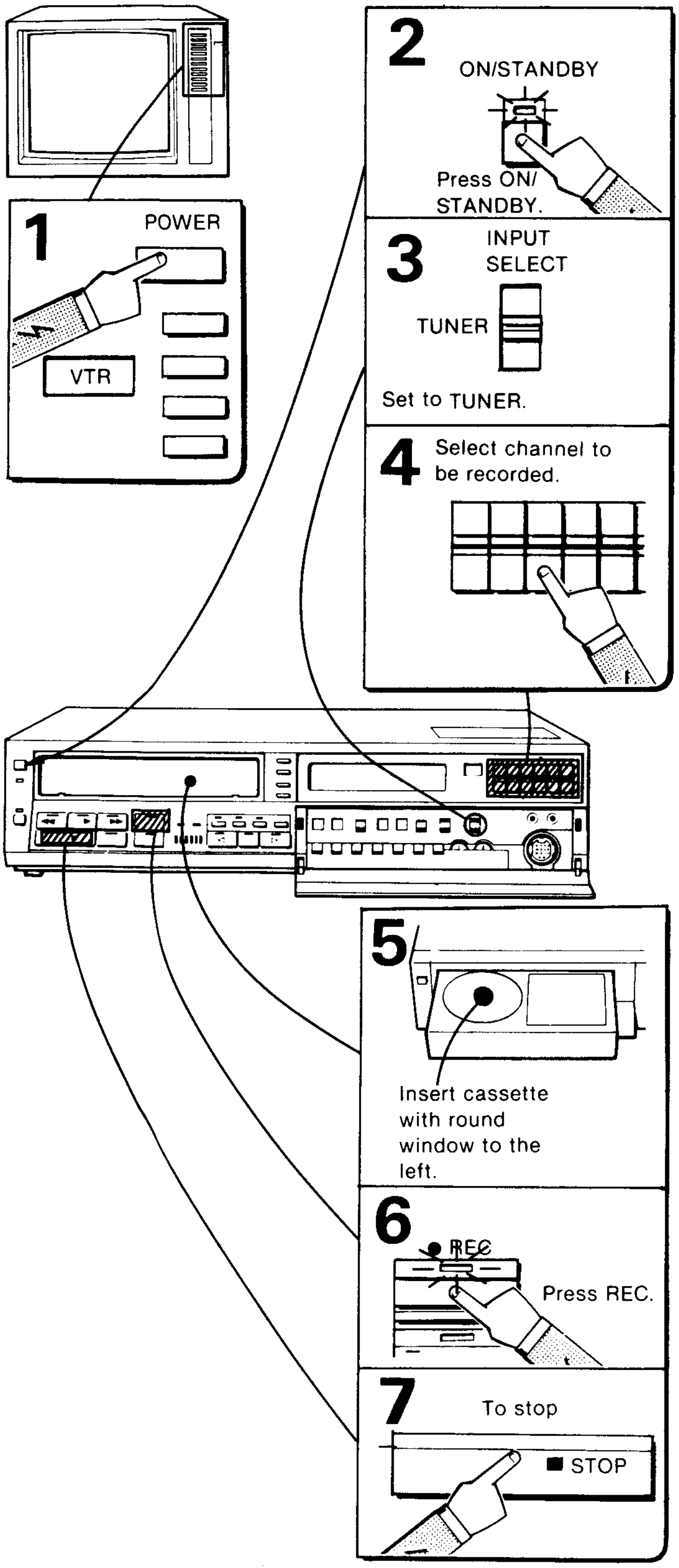
If you press the CLOCK SET button for more than a second, clock adjustment is required again and memorized timer settings are cleared.

When a power interruption has occurred
If power is resumed within about 5 minutes, during timer recording, the colon blinks quickly to indicate the power interruption. A rechargeable battery inside the unit will supply power so that the clock continues to keep time and any timer setting is maintained. The timer activated recording will stop during interruption and be resumed when the power is restored. The battery will be automatically fully recharged when the power cord of the unit has been connected for at least 30 hours. To reset the colon blinking, press any button for clock or timer setting.

If the power interruption continues for more than 5 minutes or if the battery is not fully charged, clock stops, showing "1 (Monday) 0:00". If this happens, set the clock and timer again.
NOTE: If the main POWER switch is pressed to OFF, the same result will be obtained as in power interruption.

BASIC OPERATION
TV PROGRAMME RECORDING
OPERATING PROCEDURE

1. Turn on the TV and tune it to the channel preset for the video recorder. If your TV is equipped with a TV/VTR select button, turn on the TV and set this button to VTR.
2. Press the ON/STANDBY button on the recorder.
3. Set the INPUT SELECT switch to TUNER.
4. With the programme select button, select the programme to be recorded. The selected number will be displayed on the time display.
For information how to select the programme number, see "How to select the programme number".
5. Insert a cassette into the recorder correctly.
6. Press the ● REC button. Recording will begin.
7. To stop recording, press the ■ STOP button.


1
POWER
VTR
2
ON/STANDBY
Press ON/
STANDBY.
3
INPUT
SELECT
TUNER
Set to TUNER.
4
Select channel to
be recorded.
5
Insert cassette
with round
window to the
left.
6
● REC
Press REC.
7
To stop
■ STOP

HOW TO SELECT THE PROGRAMME NUMBER

Stations are selected by pressing the programme select buttons: 1 to 29 and 0.

For programmes 1 to 9, press the appropriate single-digit button.

For programmes 10 to 19, first press the [10] button, then the button corresponding to the last digit of the programme number.

For example: for programme 10, press [10] and [0].
for programme 11, press [10] and [1].

Similarly **for programmes 20 to 29**, press the [20] button and then the single-digit button.

For programme 0, press the [0] button only.

- If you don't press any single-digit button within several seconds after pressing the [10] or [20] button, the previous programme setting will be automatically recalled.

CAUTION

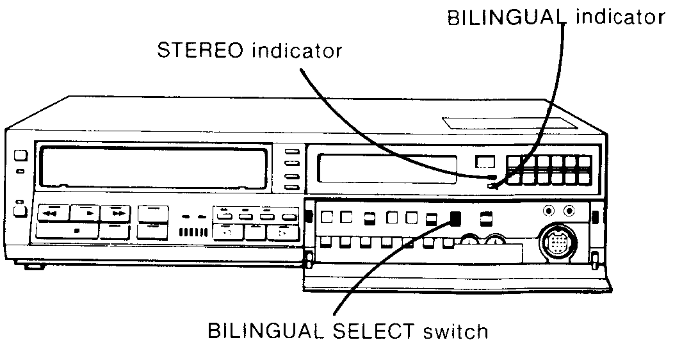
Television programmes, films, video tapes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provision of the copyright laws.

RECORDING A STEREO OR BILINGUAL PROGRAMME

When a stereo signal is being received, the STEREO indicator will light up. To record the stereo programme, proceed according to the usual recording steps.

When a bilingual signal is being received, the BILINGUAL indicator will light up. Set the BILINGUAL SELECT switch as follows.

To record the local language......set to A
To record the original language......set to B
To record both languages......set to A/B


BILINGUAL indicator
STEREO indicator
BILINGUAL SELECT switch

RECORDING ONE TV PROGRAMME WHILE VIEWING ANOTHER

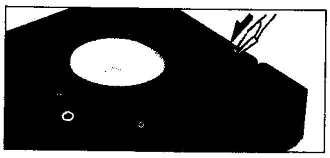
You can enjoy one TV programme while recording another TV programme as follows:

1. Start recording the desired TV programme in the usual way.
2. Select the station you want to view with the TV's programme selector. If your TV is equipped with a TV/VTR select button, set this button to TV and select the station you want to view with the TV's programme selector.

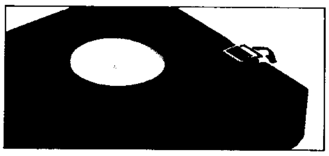
TO KEEP A RECORDED PROGRAMME FROM BEING ACCIDENTALLY ERASED

When a new recording is made on a previously recorded cassette, the previous recording will be automatically erased.

To avoid erasing a recording
Break off the safety tab using a screwdriver or similar object.



To re-record on a cassette which has had the safety tab removed
Cover the slot with a piece of plastic tape.



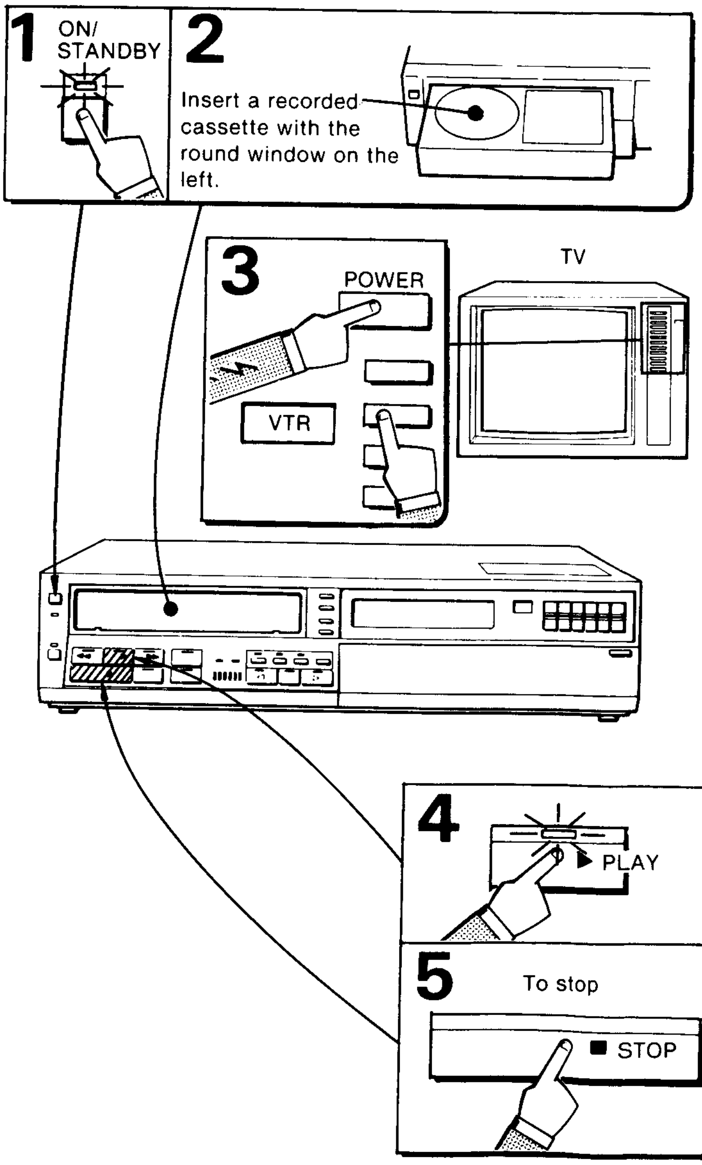
PLAYBACK

OPERATING PROCEDURE

1. Press the ON/STANDBY button on the recorder. The lamp above the button will light up.
2. Insert a recorded cassette correctly.
3. Turn on the TV and tune it to the channel preset for the video recorder. If your TV is equipped with a TV/VTR select button, turn on the TV and set this button to VTR.
4. Press the ▶ PLAY button. The lamp will light up and playback will begin.
5. To stop playback, press the ■ STOP button.

When the tape reaches the end, it will be automatically rewound.

- When the ■ STOP button is pressed, the programme determined by the INPUT SELECT switch position will appear on the TV screen.

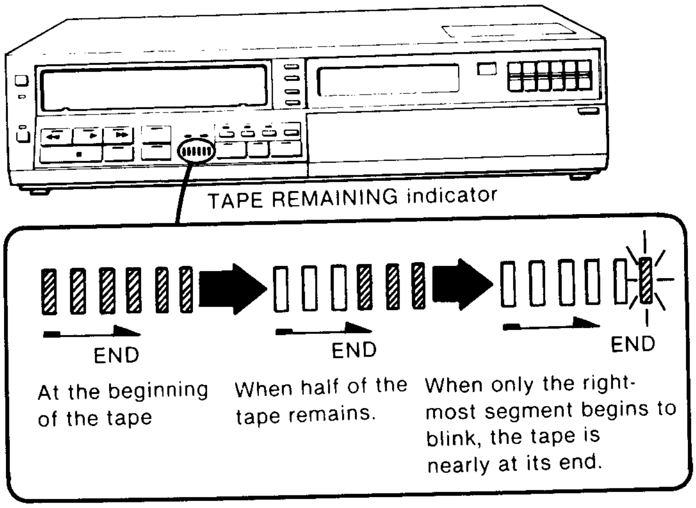


Insert a recorded cassette with the round window on the left.

To stop

TO CHECK THE AMOUNT OF TAPE REMAINING

The TAPE REMAINING indicator shows the amount of tape remaining.



At the beginning of the tape

When half of the tape remains.

When only the right-most segment begins to blink, the tape is nearly at its end.

The indicator only operates during recording or when tape on which a recording has been made is played back, rewound or advanced rapidly. It will not operate with a blank tape or with the unrecorded portion of a tape during playback, rewind and fast forward modes.

Notes

- For the first few seconds the indicator illuminations may fluctuate while the amount of tape is being detected.
- To know the amount of tape remaining during fast forward or rewind mode, play the tape back at normal speed until the illumination stabilizes, then rewind or rapidly advance the tape.

TO PLAY BACK TAPES RECORDED IN STEREO OR BILINGUAL

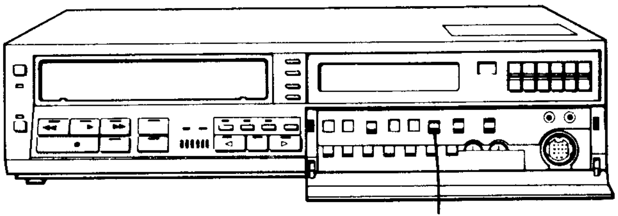
Use a stereo TV or colour monitor with speakers to enjoy programmes recorded in stereo or bilingual.
To listen to tapes recorded in stereo, proceed according to the usual playing back step.
To listen to tapes recorded with the BILINGUAL SELECT switch set to A/B, set the BILINGUAL SELECT switch as follows.

To listen to the local language......set to A
To listen to the original language......set to B
To listen to both languages......set to A/B

When th BILINGUAL SELECT switch is set to A/B, you can select the language with the bilingual channel selector button on the TV. When only the local language or the original language is recorded, the position of the BILINGUAL SELECT switch does not matter. When the programme recorded in stereo or bilingual is played back, the STEREO or BILINGUAL indicator will light up.

TO OBTAIN HIGHER QUALITY SOUND

The BNR (Beta Noise Reduction) system reduces tape hiss and improves the signal-to-noise ratio, thus permitting clear sound with low noise.



In recording: The sound is recorded with the BNR system on regardless of the position of this switch.
In playback: For a tape recorded on the SL-C9ES or on any other recorder with the BNR system on, set the BNR switch to ON. For a tape recorded on another recorder which does not have a BNR switch, set the switch to OFF.

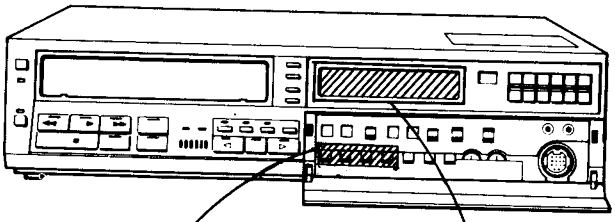
TIMER-ACTIVATED RECORDING

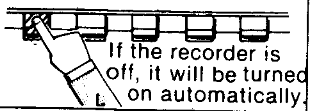
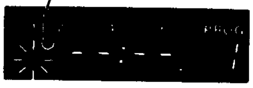
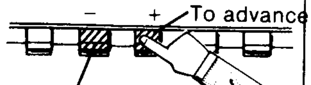
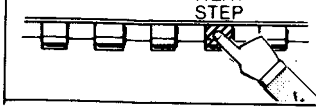
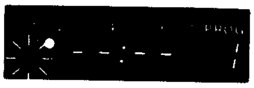
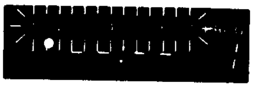
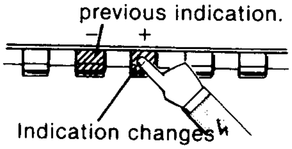
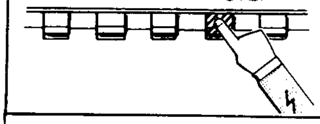
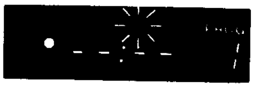
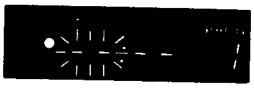
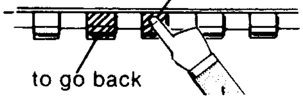
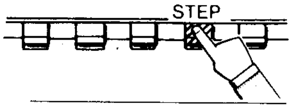
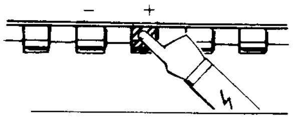
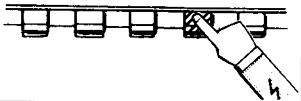
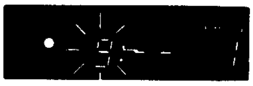
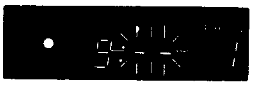
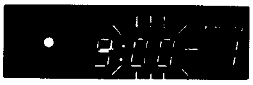
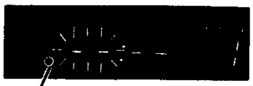
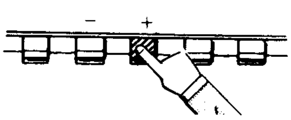
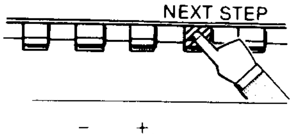
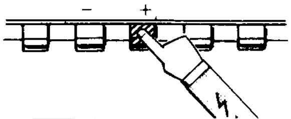
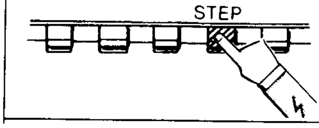
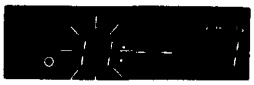
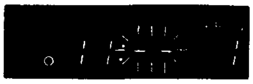
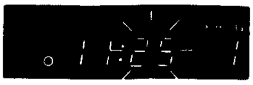
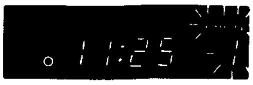
Recording of up to 9 events occurring **within the next two weeks** can be made automatically even when you are not at home.

Check before setting the timer
- Is the clock set to the correct day and correct time?
  Timer setting can only be made after the clock has been set. If the clock is readjusted after the timer has been set, the memorized timer settings will be cleared.
- Is a cassette inserted in the recorder?
- Is the cassette long enough to record the programmes?
- Does the cassette have a safety tab on the bottom?
- Is the INPUT SELECT switch set to TUNER?

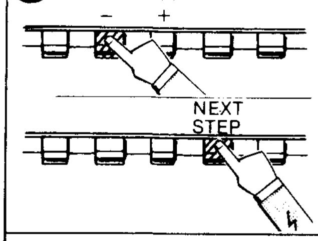
Note: The timer cannot be set during recording.

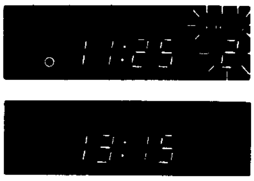
Example: To record a PROG 2 broadcast from 9:00 to 11:25 on Friday in Event 3.



Button to be pressed	**Time display** The segment to be set will blink.
1 TIMER SET  If the recorder is off, it will be turned on automatically.	turn-on indication  The lowest vacant event number will be displayed.
2 Select the event. Indication changes in numerical order. – + To advance  To go back to the previous indication. NEXT STEP 	 
3 Select the turn-on day. To go back to the previous indication. – +  Indication changes as follows; every day→Monday (1) →Tuesday (2) ..... →Monday of the next week (1) →Tuesday of the next week (2) .....→every day NEXT STEP 	 
4 Set the turn-on time. to advance – +  to go back NEXT STEP  – +  NEXT STEP 	    turn-off indication
5 Set the turn-off time. – +  NEXT STEP  – +  NEXT STEP 	   

6 Select the channel to be recorded.





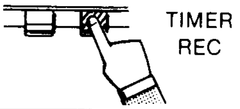
The present time is displayed.
The recorder will be turned off again if it was off before setting the timer.

7 Now the Event 3 is set. To set more events, repeat these steps. (If the unit is off, the unit will be turned on when the TIMER SET button is pressed.)

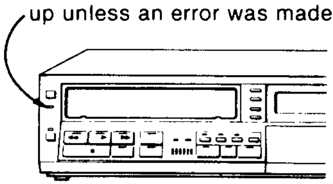
If the bilingual programme is to be recorded, set the BILINGUAL SELECT switch to the appropriate position. See page 9.

8

After all the timer settings are finished,



The TIMER lamp will light up unless an error was made.



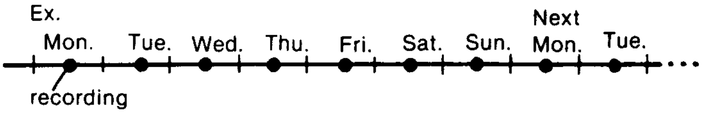
At the preset turn-on time, recording will start automatically and will stop at the preset turn-off time.

ONCE THE TIMER LAMP HAS LIT UP, NO FUNCTION OF THE RECORDER CAN BE ACTIVATED, except for checking the timer setting. To operate the recorder after setting the timer for recording, press the TIMER REC button so that the TIMER lamp goes off.

- After finishing with the recorder, be sure to press the TIMER REC button again to reactivate the timer recording standby mode.

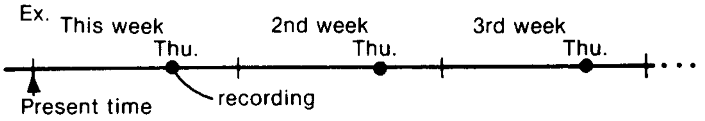
To record an event at the same time everyday

The every day of the week indication is: 1 2 3 4 5 6 7
Press the NEXT STEP button when these indications are blinking.

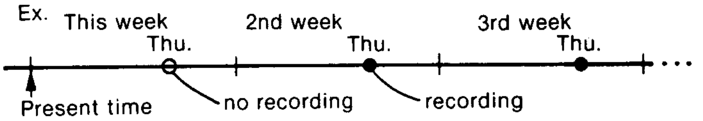

Ex.
Mon.
Tue.
Wed.
Thu.
Fri.
Sat.
Sun.
Next Mon.
Tue.
recording

To record an event at the same time every week

Use **Event 9** whose memory will not be erased even after a recording has been made.

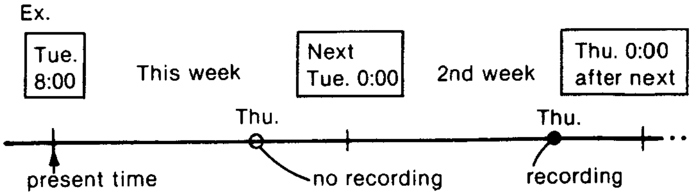

Ex.
This week
2nd week
3rd week
Thu.
Thu.
Thu.
Present time
recording

If a turn-on day is set seven days ahead, the recording will be done every week at the same time beginning the next week.


Ex.
This week
2nd week
3rd week
Thu.
Thu.
Thu.
Present time
no recording
recording

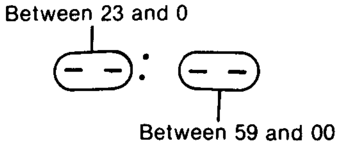
To record an event more than seven days ahead

Day indication more than seven days ahead is: 1, 2, ... 7.
Press the NEXT STEP button when the corresponding day indication is blinking.
NOTE: Be sure that the next week begins at 0:00 seven days from the present day at whatever the present time is.


Ex.
Tue. 8:00
This week
Next Tue. 0:00
2nd week
Thu. 0:00 after next
Thu.
Thu.
present time
no recording
recording

To record to the end of the tape

Set the turn-off time to a time after the tape will reach its end or to "--:--". To exhibit "--:--", press + or – SELECT button.


Between 23 and 0
Between 59 and 00

- If you set the turn-off time to "--:--", the tape will be rewound to its beginning when the recording is finished, and after about 1 second the recorder will be turned off.

If the tape reaches the end during the timer recording

The recording stops and the tape will be rewound to the beginning and after about 1 second, the recorder will be turned off.

When the timer recording ends

The unit will be turned off automatically after about 30 seconds.

To stop the actual timer recording

Press the TIMER REC button so that the TIMER lamp goes off. The unit will be turned off automatically after about a second.

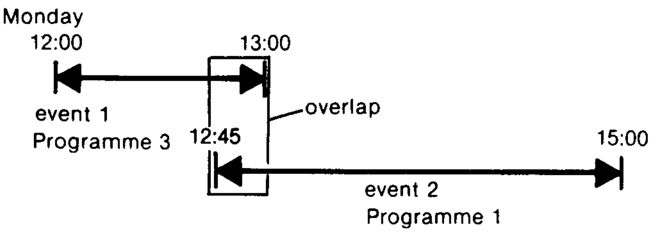
To begin recording manually and end it by the timer

Set the turn-on time earlier than the present time and the turn-off time to the desired time. Begin recording by pressing the TIMER REC button. The recording will end at the preset time.

ERROR INDICATIONS

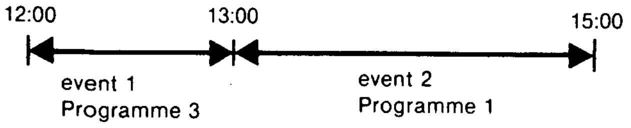
If the ● and ○ indications blink alternately and the event number also blinks when the TIMER REC button is pressed.....
It means that the setting of these events overlap. Check the settings and eliminate the overlap.

Example:
Timer setting



Even with this error indication, recording can be made. In this case, the first preset recording continues to its turn-off point and then the next recording begins.

Realized recording



- If the turn-on time of more than 2 events is the same, recording of the event having the lowest number will be made.

If the "--:--" indication blinks when the TIMER REC button is pressed .....
Check the following points:

- Did you insert a cassette into the recorder?
- Does the cassette inserted have a safety tab on the bottom?
- Make sure that the tape is not at its end.

After correcting the above points, press any timer setting button or ON/STANDBY button, then set the timer and press the TIMER REC button again.
Timer-activated recording cannot be activated if the TIMER lamp does not light.

TO CHECK THE TIMER SETTING

If the TIMER lamp lights up .....
Press the TIMER SET button. Each time you press the button, the indication will change as follows:
Example (Events 1, 2, and 5 have been preset.)

turn-on day and time of Event 1 → turn-off time →
turn-on day and time of Event 2 → turn-off time →
turn-on day and time of Event 5 → turn-off time → present time

- During actual timer recording, only the turn-off time of the event being recorded can be checked.
- To obtain a present time during the checking procedure, press the NEXT STEP button when a turn-off time is displayed.

If the TIMER lamp does not light up .....
To check all events, press the TIMER SET button. From the lowest vacant event number, all nine events are displayed in sequence with both turn-on and -off days and times, advancing one event each time you press the button twice. After the nine events have been displayed, the present time is again displayed.
To check a particualr event, press the TIMER SET button and then press the + or − button to display the desired event number. To check the turn-off time, press the TIMER SET button again.

- To obtain a present time during the checking procedure, turn the recorder off.

TO CLEAR THE TIMER SETTING

The memory of an event will be automatically erased when the recording of that event is finished. Settings for everyday and every week (Event 9) will not be erased, of course. If you want to skip the timer recording preset for everyday or every week temporarily, press the TIMER REC button so that the lamp goes off. To reactivate the timer standby mode of that event, press the TIMER REC button again.

If you want to erase the memory of an event:

1. Press the TIMER SET button and then the + or − button to display the event to be erased.
2. Press the CLEAR button. This event will be erased from the memory.
3. To display a present time, turn the unit off.

ADVANCED OPERATION
TO OBTAIN VARIABLE SPEED PLAYBACK PICTURE

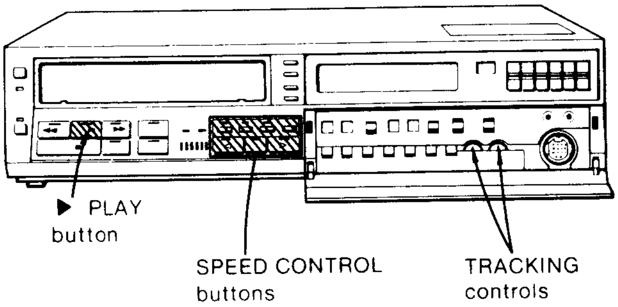
With this video cassette recorder, you can obtain still, frame-by-frame, slow motion, double speed or high speed playback picture in both forward and reverse direction (for double speed playback, forward direction only).

For example...

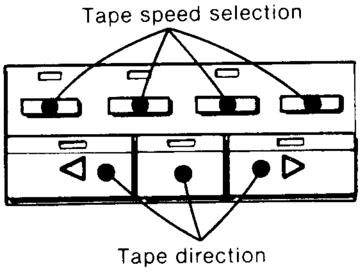
To closely inspect a particular frame→STILL PICTURE
To study your golf or tennis form→FRAME-BY-FRAME PICTURE
To watch a football play slowly unfold→SLOW-MOTION PICTURE
To quickly review a programme→DOUBLE SPEED PICTURE
To visually search for a particular point→PICTURE SEARCH

SPEED CONTROL

For still, frame-by-frame, slow motion and normal speed playback in both forward and reverse direction, use the "SPEED CONTROL" function buttons.



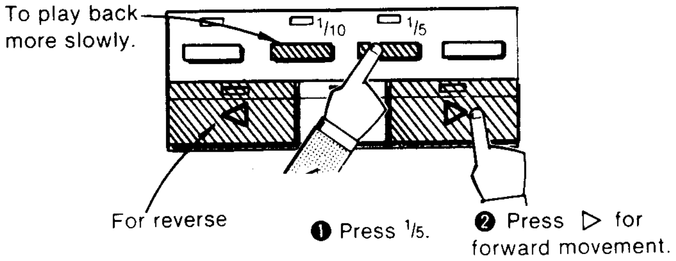
To enter the speed control mode, first press the ▶ PLAY button. Then select the playback speed and tape direction



Notes

- The audio cannot be monitored in the speed control mode.
- To resume normal playback when the recorder is in the speed control mode, press the ▶ PLAY button.

Slow motion



To play back more slowly.

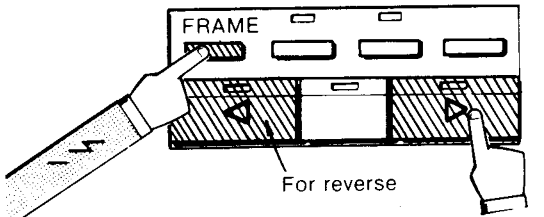
For reverse

❶ Press 1/5.

❷ Press ▷ for forward movement.

- To stop the motion, press the STILL button.

Frame-by-frame playback



For reverse

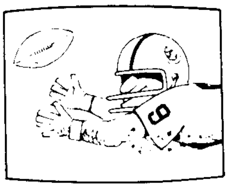
❶ Press FRAME. Picture motion will stop.

❷ For forward frame-by-frame playback, repeatedly press and release the ▷ button.

- If you keep the ▷ or ◁ button depressed, the picture will advance continuously one frame every second.

Still picture

There are two ways to stop the motion of the picture.
1) Press the PAUSE button.
2) Press the FRAME and STILL buttons.

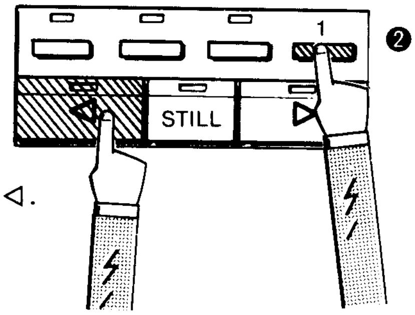


If a vertical jitter appears in the still, frame-by-frame or slow motion picture.

Obtain a still picture and adjust the TV VERT LOCK control at the rear of the recorder for the best possible picture. Then return the recorder to the previous mode.

- Once you adjust this control, you do not have to adjust it again unless you change the connected TV receiver.

Reverse playback



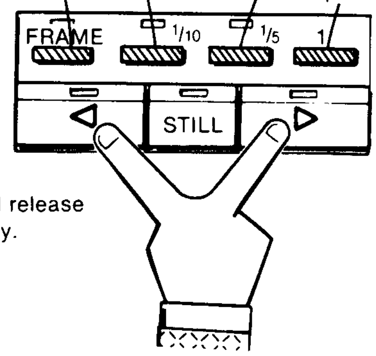
❶ Press ◁.

❷ Press "1".

- For forward playback, press the ▷ button. The audio cannot be heard.

Back and forth playback

❶ Select desired speed.



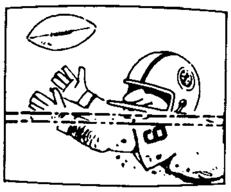
1/10 slow motion

1/5 slow motion

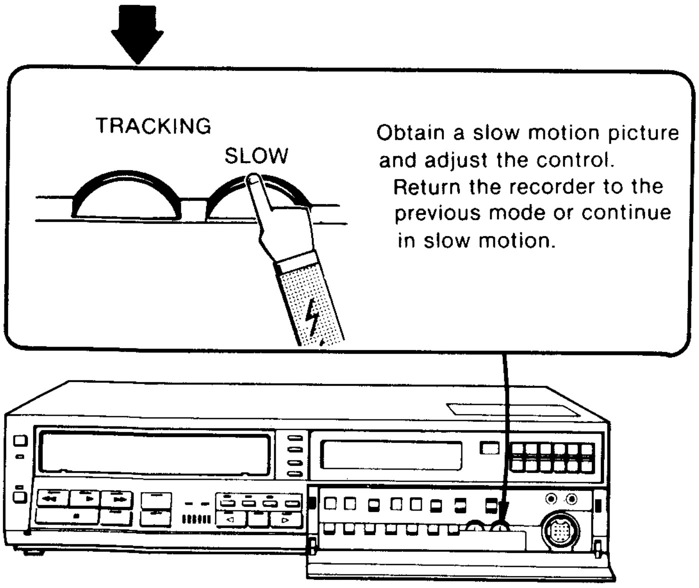
frame-by-frame picture

normal playback speed

❷ Press and release alternately.

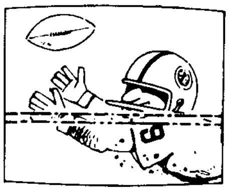


To remove the noise band in the still, frame-by-frame or slow motion picture.

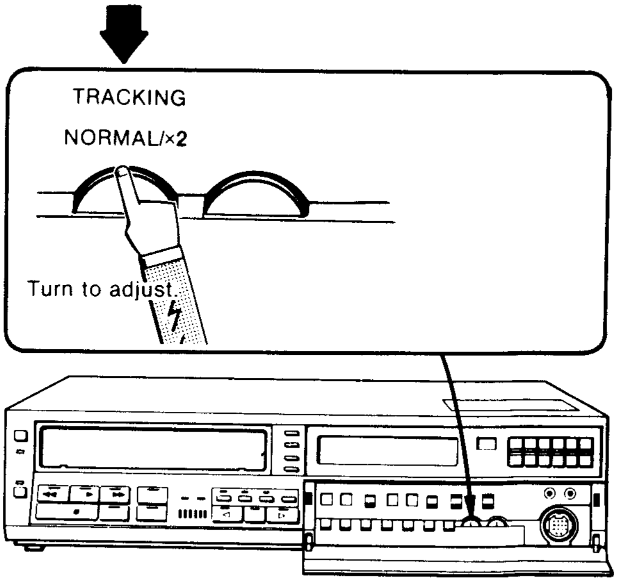


Obtain a slow motion picture and adjust the control. Return the recorder to the previous mode or continue in slow motion.

- Return the control to its original (centre) position after playback.



To remove the noise band in the reverse playback picture

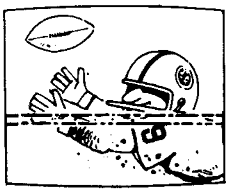


Turn to adjust.

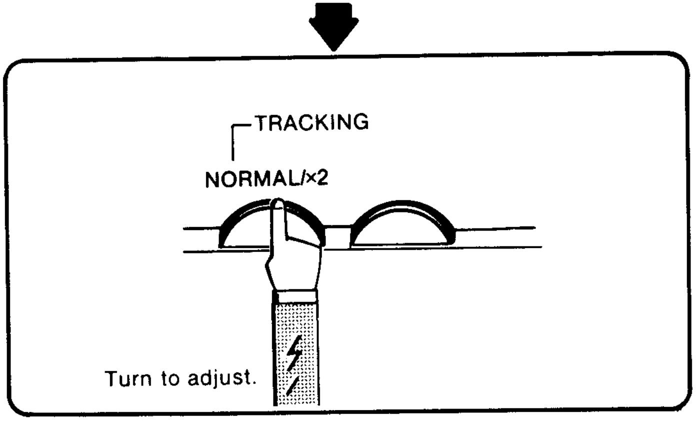
Return the control to its original (centre) position after the reverse normal speed viewing.

DOUBLE SPEED PLAYBACK

Press the ×2 button to view the picture at twice the normal speed. You can change the tape speed directly to slow motion or frame-by-frame advance or reverse the tape direction by selecting the tape speed with the FRAME, 1/10, 1/5 or 1 buttons and then by pressing the ▷ or ◁ button.



To remove the noise band in the double speed picture

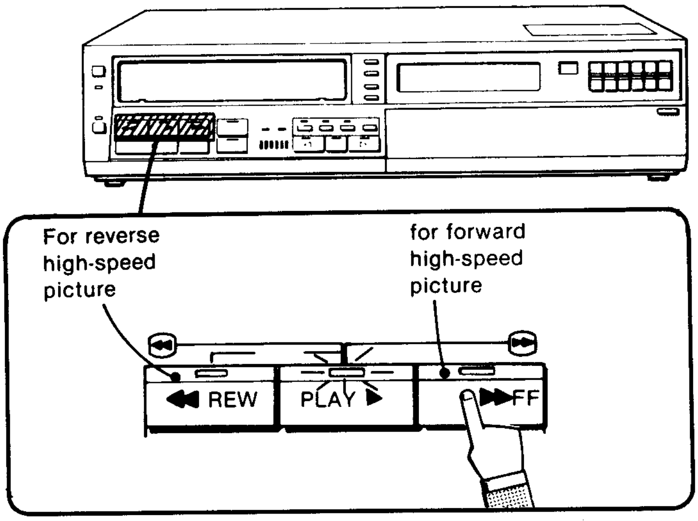


Return the control to its original (centre) position after the double speed viewing.

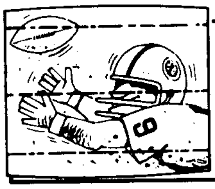
PICTURE SEARCH

Press the ▶▶ FF or ◀◀ REW button during playback mode.
While the button is depressed, a high-speed picture in the forward or reverse direction is displayed.
Release the button for previous mode.

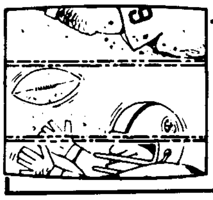
- Picture search mode can also be obtained directly from the frame-by-frame, slow-motion double speed or reverse playback mode.



For reverse high-speed picture
for forward high-speed picture
◀◀ REW
PLAY ▶
▶▶FF



Streaks will appear in the picture search mode.



If the picture rolls vertically, adjust the vertical hold control on the TV.

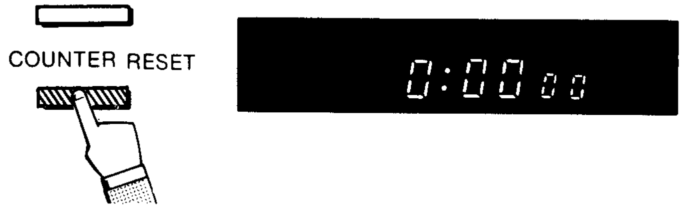
- If you press and release the ▶▶ FF or ◀◀ REW button repeatedly in a short time, the protection circuit may be activated and the tape will stop.

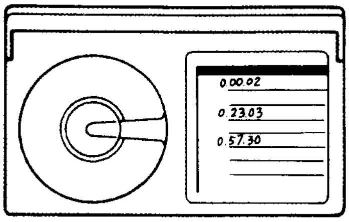
TO LOCATE A PARTICULAR SCENE

TO REFERENCE A RECORDED PROGRAMME NUMERICALLY→ TIME COUNTER

When the COUNTER/TIMER button is pressed once, the display works as a time counter indicating how much the tape has advanced at normal speed in hours, minutes and seconds.
Press the COUNTER RESET button to set the counter to "0:00oo" before recording or playback. By noting the counter reading at a particular point, you can easily find that point later by referring to the time counter.
When the tape runs in reverse from "0:00oo", a minus sign "–" will be displayed to the left of the figures.

- To revert the display to the present time, press the COUNTER/ TIMER button again.





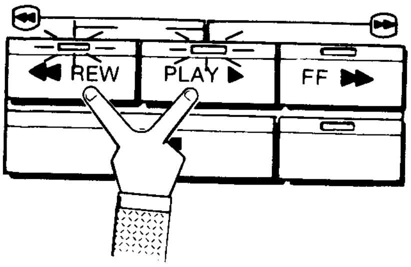
Write the counter readings you want to remember on the label of the cassette.

The counter reading is automatically reset to zero when the power is turned off
While the power is turned off, the display shows the present time, regardless of the COUNTER/TIMER selector.

The time counter does not operate with brand-new tapes except in the record mode
When an unrecorded tape is played back, advanced rapidly forward or rewound, the time counter does not operate.

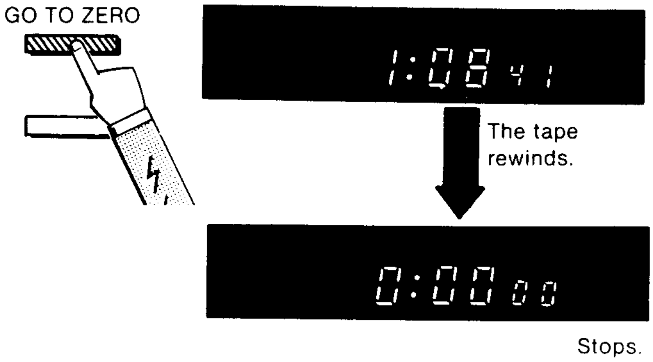
TO PLAY FROM THE BEGINNING OF THE TAPE AFTER REWINDING → AUTO PLAY

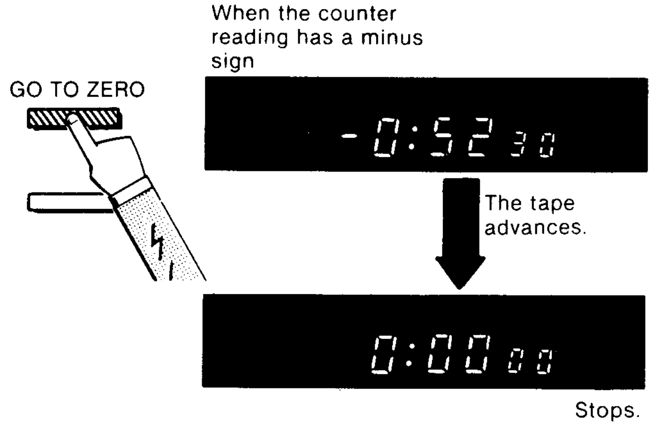
Press the ▶ PLAY button and ◀◀ REW button simultaneously while rewinding or in the stop mode. The PLAY and REW lamps blink alternately during rewinding.
After the tape is completely rewound, it will be automatically played back.



TO RETURN TO A PRE-REGISTERED POINT→GO TO ZERO

Press the COUNTER/TIMER button to display the time counter, then press the COUNTER RESET button at the point you later want to locate. When the recording or playback is finished, stop the tape by pressing the ■ STOP button, then press the GO TO ZERO button. The tape will rewind or advance to the point where the COUNTER RESET button was pressed.

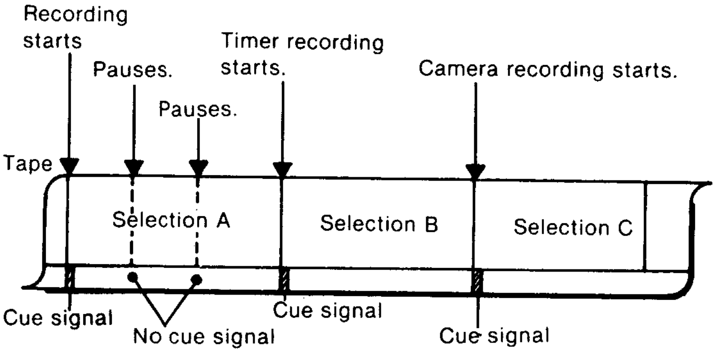




- The tape may stop several seconds before or after 0:00oo.
- Always display the time counter by pressing the COUNTER/ TIMER button to activate the GO TO ZERO function.

TO PLAY FROM THE START OF A DESIRED SELECTION→AUTO PROGRAMME SEARCH (APS)

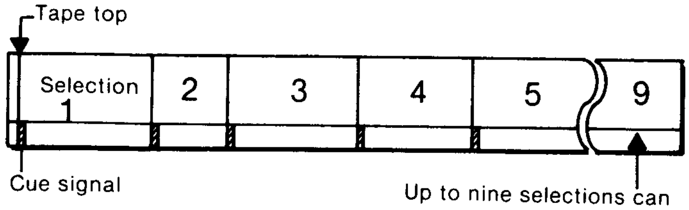
The APS function operates by...
detecting the cue signals which are automatically recorded on the tape when the ● REC button is pressed or when timer recording begins.


Recording starts
Pauses.
Timer recording starts.
Camera recording starts.
Pauses.
Tape
Selection A
Selection B
Selection C
Cue signal
No cue signal
Cue signal
Cue signal

Notes

- Too short selection cannot be detected as one selection. There must be at least 30 seconds of tape at normal playback speed between cue signals.
- The APS function operates with any tape recorded on a machine with an APS function, such as the Sony SL-C7 series recorders.

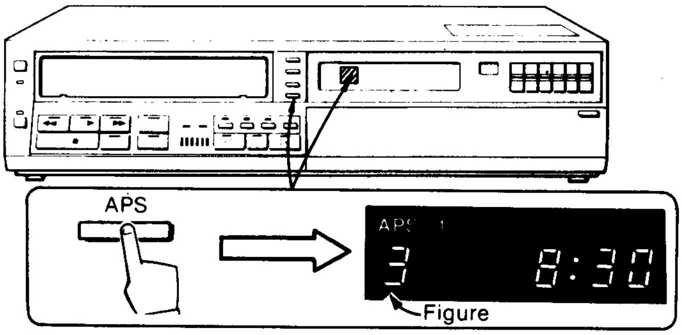
How to actuate the mechanism
You number each selection on the tape from the beginning in sequence and find your desired selection by designating the number.


Tape top
Selection 1
2
3
4
5
9
Cue signal

Up to nine selections can be detected at one setting.

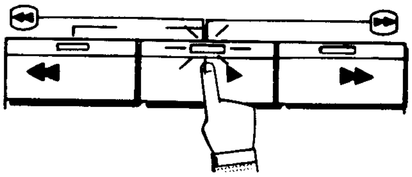
Operation

1. Stop the tape by pressing the ■ STOP button.
2. Press the APS button.
   "APS" appears on the left side of the time display.
   ● If the number appears below the "APS" indication, that is the number of the present selection.
3. Press the APS button again.
   "0" appears below the "APS" indication. Press the APS button serveral times until the number of your desired selection appears.


APS
APS
3
8:30
Figure

Each time you press the APS button, the number in the time display will increase by 1, up to "9". If you press the button when "9" is displayed, "9" will disappear and the index function will not operate.

4. Press the PLAY button.

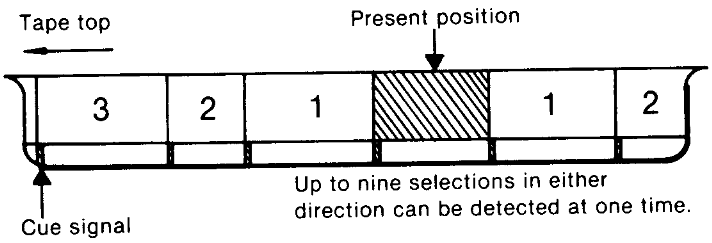


The recorder will search for the starting point of your desired selection in either of the rewind or fast forward mode. When located, playback of the programme will start automatically.

How can you know what the present selection number is?
When you rewind the tape to the tape top or proceed with the APS function, the present selection number will be displayed below the APS indication on the time display when the APS button is pressed once.

The recorder will hold the selection numbers until the cassette is removed, the power is turned off, or playback in slow motion is actuated.

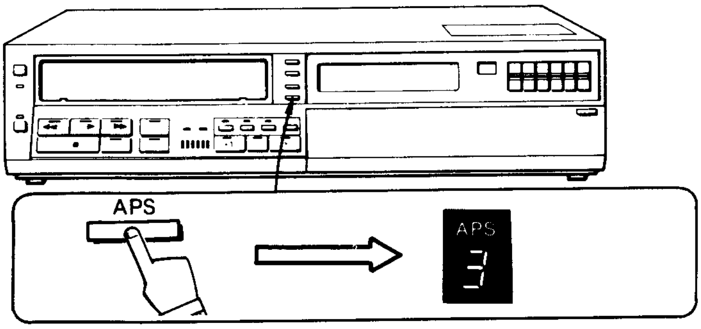
You can also search for a desired selection, which has been numbered in sequence, from the present position, by pressing the APS button.


Tape top
Present position
3
2
1
1
2
Up to nine selections in either direction can be detected at one time.
Cue signal

Operation

1. Stop the tape by pressing the ■ STOP button.
2. Press the APS button.
   "APS" appears on the left side of the time display.
   - If the number appears below the "APS" indication, that is the number of the present selection.
3. Press the APS button again.
   "0" appears below the "APS" indication. If you want to see from the top of the selection you were just watching, leave the figure at "0".
4. Press the APS button several times until the number of the selection you want to go back or forth to appear.

   For example, if you want to see the third selection ahead of one you were watching, press the APS button three times so that the figure "3" appears.



5. Press the ▶▶ FF button when locating a selection ahead, such as in case of above example. When locating a selection behind, press the ◀◀ REW button.

The recorder will search for the starting point of your desired selection in either the fast forward or rewind mode. When located, playback of the selection will start automatically.

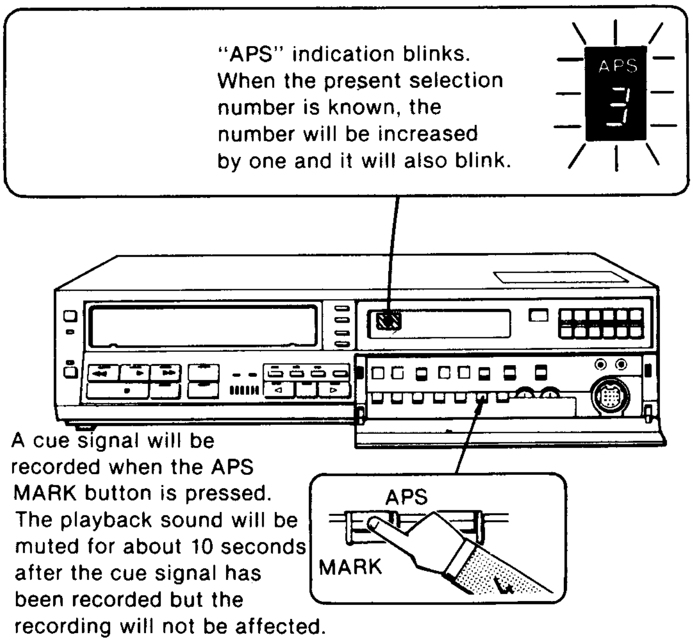
To insert a cue signal on a recorded tape

The cue signal is automatically recorded on the tape when the ● REC button is pressed or when timer recording begins. If two selections have been recorded without interruption, no cue signal will be recorded between the selections. Consequently, beginning of the second selection cannot be located. In this case, you can insert a cue signal.

Also during recording, you can insert a cue signal at any point on the tape so that you can easily find that point later.

1. Play the tape back or start recording.
2. At the point where a cue signal is to be recorded, press the APS MARK button in the front compartment.

Note: Wait for more than 1 minute after one cue signal is inserted before recording the next cue signal.

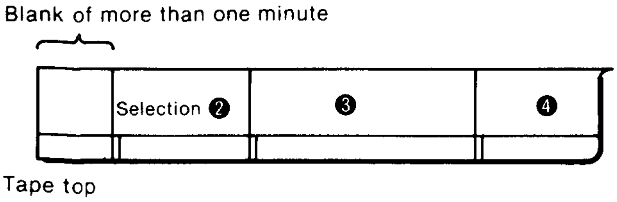


"APS" indication blinks. When the present selection number is known, the number will be increased by one and it will also blink.

A cue signal will be recorded when the APS MARK button is pressed. The playback sound will be muted for about 10 seconds after the cue signal has been recorded but the recording will not be affected.

When the desired selection cannot be played back with the APS function, check the following:

- Is there a blank space of over one minute at the very beginning of the tape? If so, the first selection will be counted as selection number two.

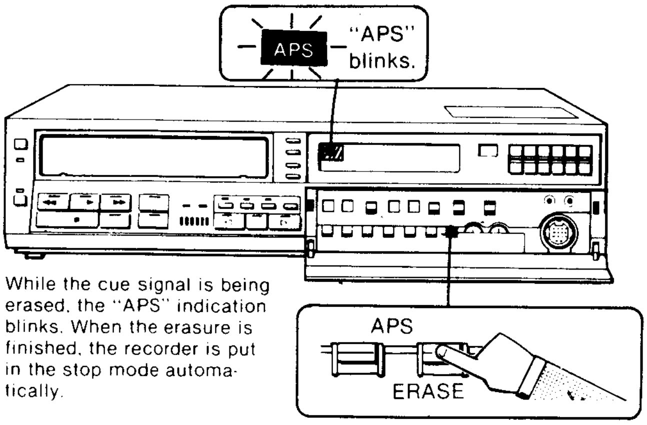


- Is there a selection of less than one minute? Such a selection may not be counted as one selection.
- Have you performed the APS operation within one minute before or after a cue signal? In this case, the first cue signal to be detected may not be counted.

To erase a cue signal

1. Stop the tape by pressing the ■ STOP button.
2. Proceed with the APS operation to search for the cue signal you want to erase.

   When the tape reaches the point where the cue signal you want to erase is located, playback will begin.
3. Press (within about 20 seconds) the APS ERASE button behind the front compartment while the APS indication and the selection number are displayed on the left side of the time display.



While the cue signal is being erased, the "APS" indication blinks. When the erasure is finished, the recorder is put in the stop mode automatically.

- The cue signal will not be erased if you press the APS ERASE button after the APS indication on the time display disappears.

HOW TO RECORD WITH SMOOTHER TRANSITIONS BETWEEN SCENES

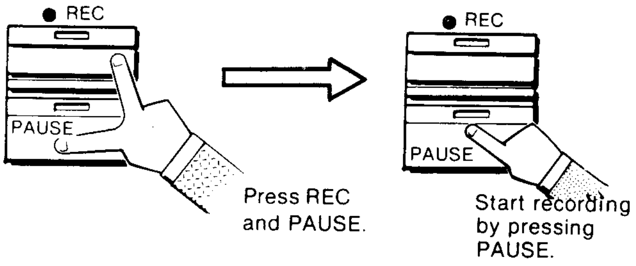
For a smooth transition between scenes, always start recording when the recorder is in the recording pause mode. Even if you use the ■ STOP button to stop recording or if you turn off the recorder, picture transition will be smoother if you start recording after first setting the recorder to the recording pause mode.

When recording with a camera

The recorder will automatically enter the recording pause mode when the REC button is pressed so that the transition between scenes will be smooth.

When recording TV programmes

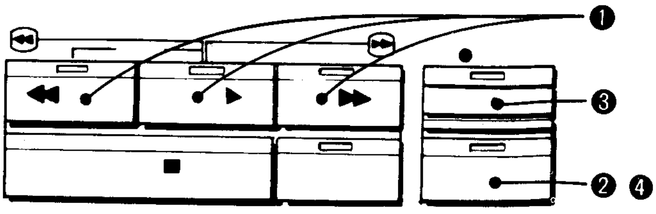
Press the PAUSE button then the REC button to set the recorder in the recording pause mode. When you want to start recording, press the PAUSE button again. Recording will start and the picture transition will be smooth.



TO START RECORDING FROM A PARTICULAR POINT

You can start recording from any desired point by searching for that point using the picture search (→page 17) and speed control (→page 15) functions.

1. Search for the point where you wish to start recording on the tape using the picture search function.
2. Stop the tape at the point where you wish to start recording the next scene by pressing the STILL button. You will find it convenient to search for the point precisely using the slow motion playback.
3. Press the REC button. The recorder will enter the record pause mode.
4. Press the PAUSE button. Recording will start.



Why is picture transition smoother when recording is started from the recording pause mode?

When the recorder enters the recording pause mode, the tape will be automatically rewound for about 0.5 second, then stop. When the pause mode is released to start recording, the tape runs in the playback mode to synchronize the segment to be recorded next with the last segment recorded. When the tape reaches the point where the recorder entered the recording pause mode, recording starts.

BEFORE OPERATING
PRECAUTIONS

On safety

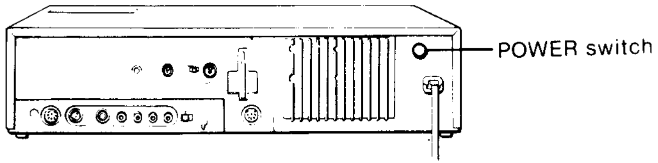
- This unit operates on 110 – 240 V ac, 50/60 Hz.
- Should any solid object or liquid fall into the cabinet, turn off the unit and have it checked by qualified personnel before operating it any further.

On installation

- Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation grille.
- Do not install the unit near heat sources such as radiators or air ducts or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- The unit is designed for operation in a horizontal position. Do not install it in an inclined position.
- Do not install the unit near an AM receiver, since a noise may be heard when listening to the AM programme.

On operation

- When the unit is not to be used for a long period, turn the power off to conserve energy and to extend the useful life of your unit. If you turn off the POWER switch located at the rear, power for all circuit, including the clock section will be shut off.



- Keep the unit and cassette tapes away from equipment with strong magnets, as for example, a microwave oven or a large loudspeaker.
- Remove and store video cassettes after recording or playback.

On cleaning

Clean the cabinet, panel and controls with a dry soft cloth. Do not use a moistened cloth or any type of solvent, such as alcohol or benzine, which might damage the finish.

On repacking

Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.

On colour broadcasting systems

This machine is designed to record and play back using the PAL colour standard. Recording and playback of video sources based on other colour systems cannot be guaranteed.

If you have any questions about this unit, contact your Sony dealer.

PREPARATION
CONNECTIONS

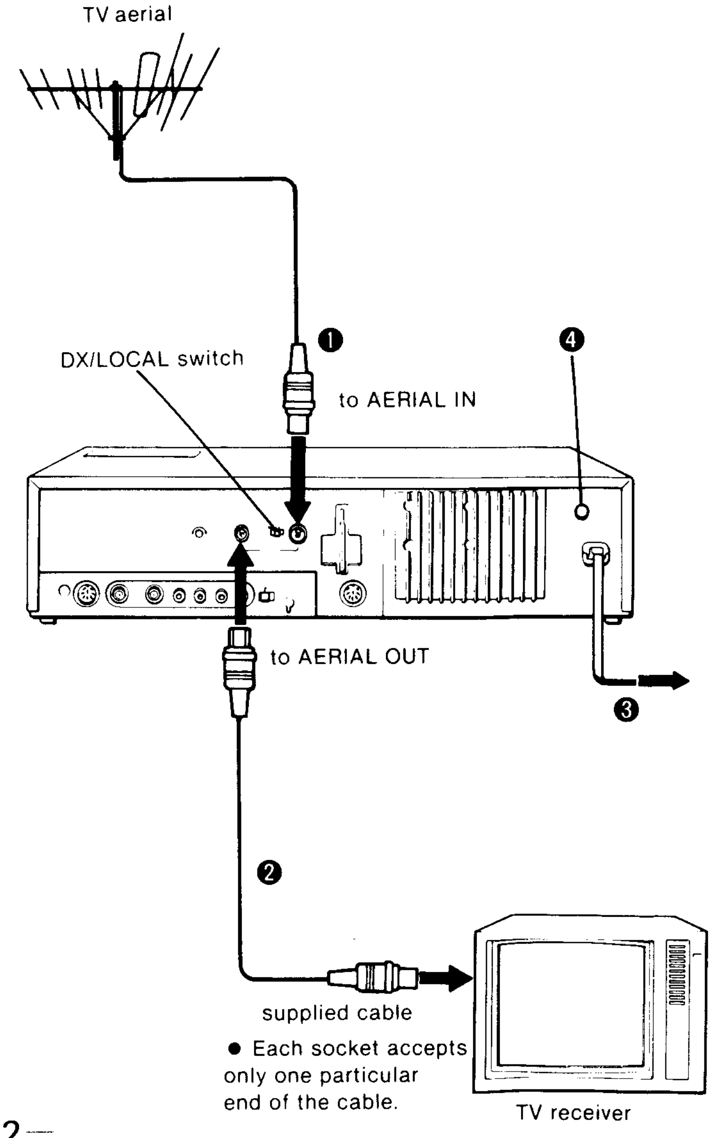
Cautions

- Unplug the TV from the mains outlet before making the following connections.
- Reconnect the mains lead after all the other connections of the video cassette recorder and the TV have been completed.
- Make sure the connections are secure. A loose connection may cause a noisy picture.

CONNECTING TO THE TV

Remove the aerial cable from its socket in the back of the TV, then connect the aerial, recorder and TV following in the numbered sequence.

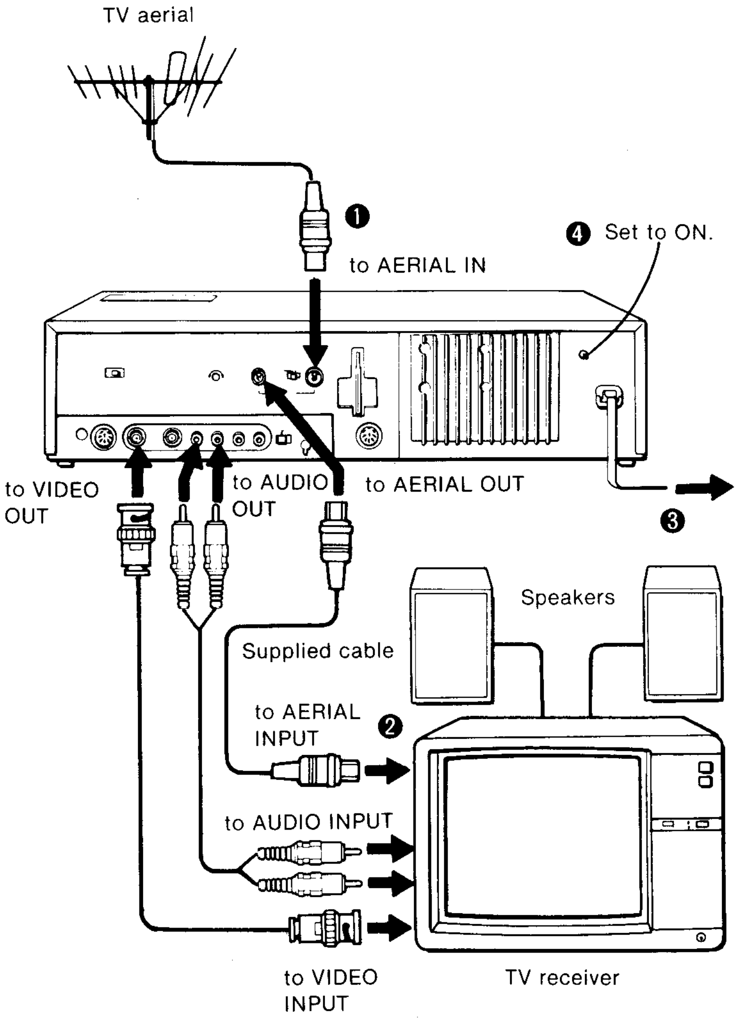
1. Remove the aerial cable from its socket in the back of the TV. Then connect the aerial cable to the AERIAL IN socket at the rear of the recorder.
2. Connect the aerial input of the TV receiver to the AERIAL OUT socket of the recorder, using the supplied cable.
3. Connect the recorder and the TV receiver to the mains supply with their own mains leads.
4. Press the POWER switch to ON.



- Each socket accepts only one particular end of the cable.

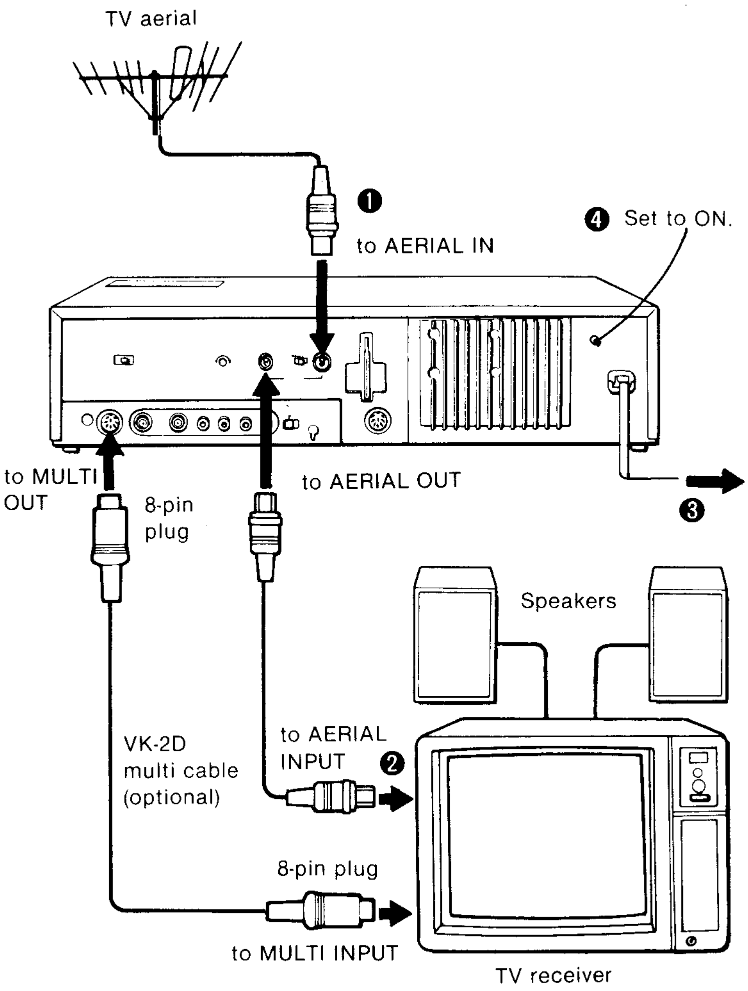
When connecting the TV receiver to VIDEO OUT and AUDIO OUT on the recorder

You can enjoy recording and playing back of the stereo or bilingual programme.


TV aerial
❶
to AERIAL IN
❹ Set to ON.
to VIDEO OUT
to AUDIO OUT
to AERIAL OUT
❸
Speakers
Supplied cable
to AERIAL INPUT
❷
to AUDIO INPUT
to VIDEO INPUT
TV receiver

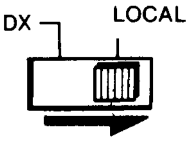
When connecting the TV receiver to MULTI OUT on the recorder

The video and audio signal connection to the TV can be made by a single video monitor cable. You can enjoy recording and playing back of the stereo-sound or bilingual programme.


TV aerial
❶
to AERIAL IN
❹ Set to ON.
to MULTI OUT
8-pin plug
to AERIAL OUT
❸
Speakers
VK-2D multi cable (optional)
to AERIAL INPUT
❷
8-pin plug
to MULTI INPUT
TV receiver

Now the recorder is set up to intercept all signals from the aerial on their way to the TV receiver. The recorder then passes on the signals to the TV. This is why you can record a programme while it is being shown on the TV, or while the TV is showing another programme, or even when the TV is turned off.

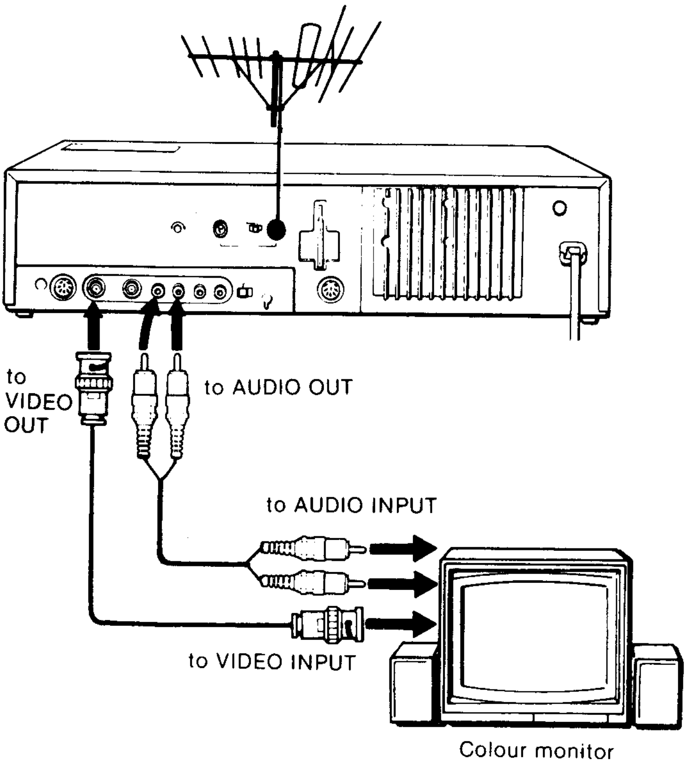
Notice for customers in a strong signal area
The recorder has a booster to assure stable TV reception. However, in areas near TV stations, where the TV signal is very strong, the picture may be affected by the booster. If this happens, set the DX/LOCAL switch on the rear panel to LOCAL.



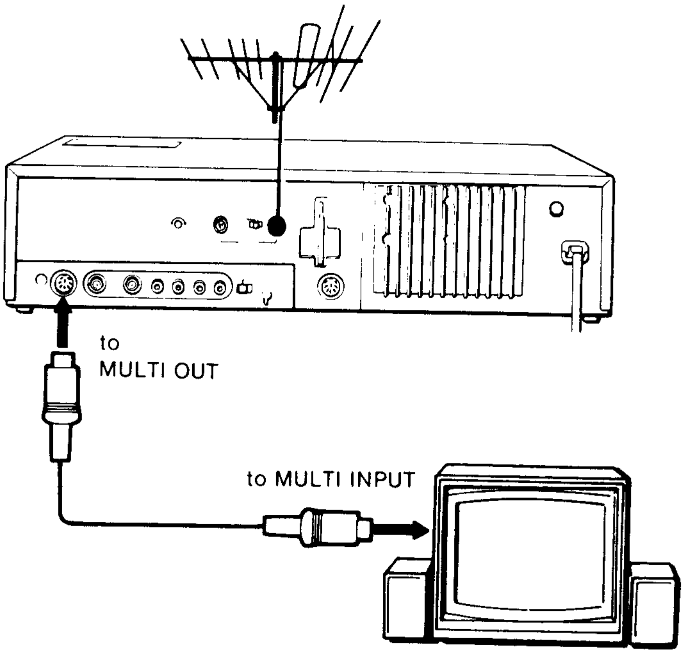
CONNECTING A COLOUR MONITOR

To obtain a higher-quality picture, connect the unit to a colour monitor, such as the Sony KX-20PS1, instead of a conventional TV receiver. The aerial should be connected to the recorder in the same way as a conventional TV.

Using the audio and video cables

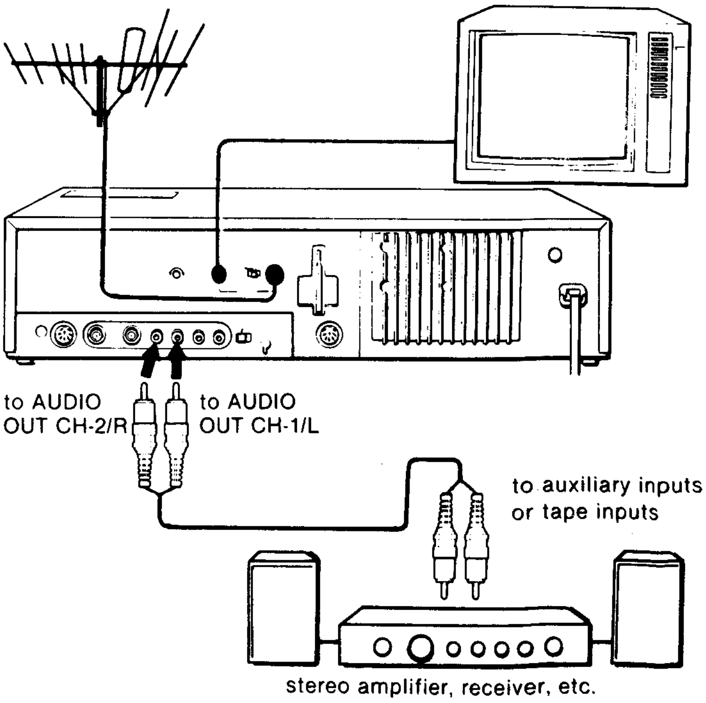

to VIDEO OUT
to AUDIO OUT
to AUDIO INPUT
to VIDEO INPUT
Colour monitor

Using a multi cable
The video, audio and control signal connection to the Sony KX-20PS1 colour monitor can be made by the single VK-2D multi cable (optional).


to MULTI OUT
to MULTI INPUT

CONNECTING TO AN AUDIO SYSTEM

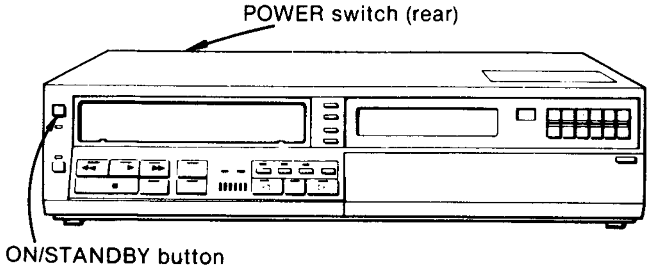
You can enjoy the stereo sound of the video tapes through your audio system even if your TV receiver is a conventional type.


to AUDIO OUT CH-2/R
to AUDIO OUT CH-1/L
to auxiliary inputs or tape inputs
stereo amplifier, receiver, etc.

TURNING THE RECORDER ON AND OFF

Normally, keep the POWER switch at the rear panel depressed to ON and turn the recorder on and off with the ON/STANDBY button. The POWER switch is the mains power on/off switch. When this switch is OFF, the power supply to all sections in the recorder, including the clock section, will be shut off and the timer memory will be erased. The TV will not operate in this situation, because the TV signal will not be fed to the TV.

If you keep this switch depressed to ON, the clock section will be always powered and the other sections can be turned on and off with the ON/STANDBY button.



ADJUSTING THE TV

One of the television channels must be adjusted to receive the signal from the recorder.

1. After making the connections, press the ON/STANDBY button.
2. Make sure that the recorder is in the stop mode.
3. Set the TEST SIGNAL switch in the tuning compartment of the recorder to ON.
4. Turn on the TV and select a channel which is not being used to receive a TV station. Tune the channel until you see a clear black and white pattern on the TV screen and you hear a continuous tone. This is the recorder's test signal.

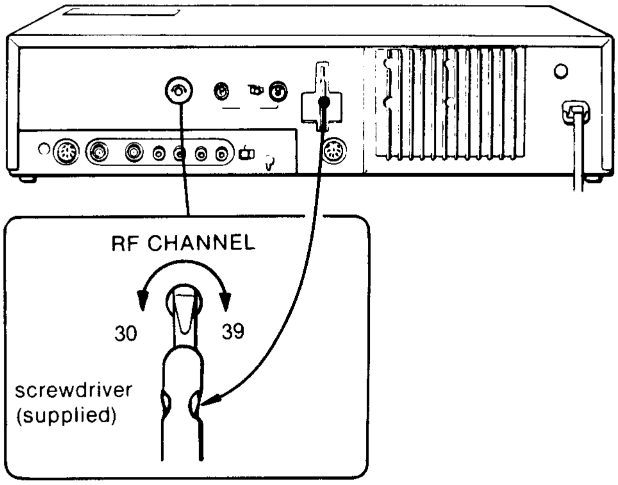
● Note that the test signal is transmitted on a channel between UHF channels E30 and E39.

— If you are not sure how to adjust your TV, please refer to the TV's instruction manual or consult your dealer.

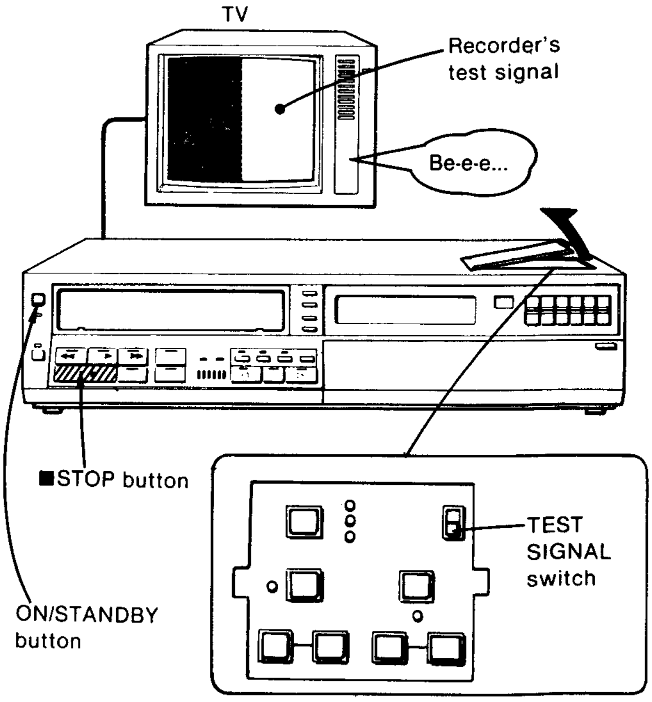
If the test picture is free of disturbance, the TV adjustment is complete. Set the TEST SIGNAL switch to OFF.

If the test picture is not free of disturbance

1. Reset the TEST SIGNAL switch to OFF.
2. Adjust the channel of the TV to a channel between UHF channels E30 and E39 with the tuning control or the fine tuning control on the TV, so that the TV screen shows no picture and so that a steady rustling sound or no sound is heard.
3. Set the TEST SIGNAL switch to ON again.
4. Slowly turn the RF CHANNEL screw on the back of the recorder with the supplied screwdriver, until you see an undistorted test picture on the TV screen.
5. Now the TV adjustment is complete. Reset the TEST SIGNAL switch to OFF.



Whenever you use the video recorder, you should set the TV to the channel selected in this adjustment.



TV STATIONS PRESETTING

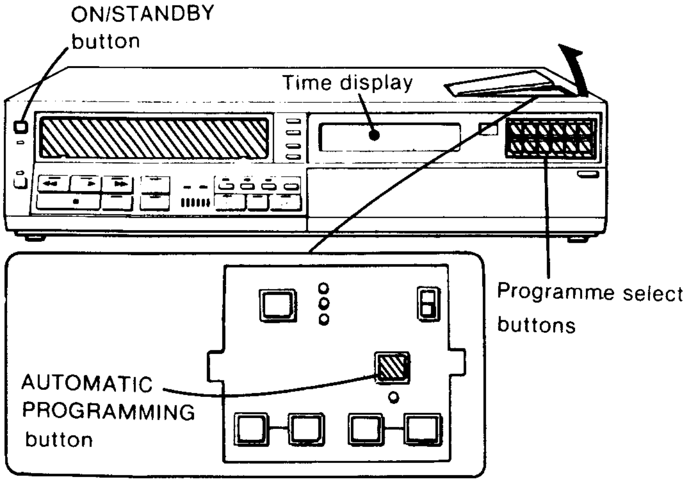
TO PRESET ALL THE RECEIVABLE VHF AND UHF STATIONS

The receivable TV stations, up to 30, in your area can be preset to the programme select buttons automatically in order from the TV station with the lowest frequency to the station with the highest.

1. Turn on the recorder by pressing the ON/STANDBY button.
2. Set the INPUT SELECT switch to TUNER.
3. Open the lid of the tuning compartment and press the AUTOMATIC PROGRAMMING button. The PROG 1 will appear on the time display. The lamp associated with the AUTOMATIC PROGRAMMING button will begin flashing and all receivable stations will be tuned and memorized automatically on the programme select buttons from 1, up to 30 stations.
When the automatic programming is finished, the lamp stops blinking and the broadcast of the station memorized on the programme select button "1" will be displayed on the TV screen.
4. Check the results of the automatic programming referring to your local TV listings, by pressing the programme select buttons. For information how to press the programme select buttons, see page 9.

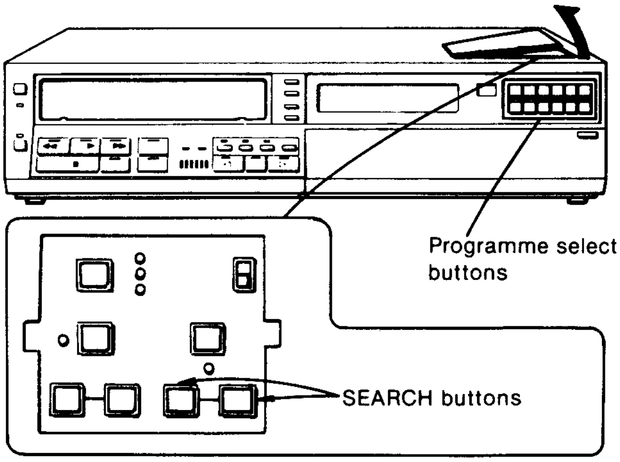
After presetting the TV stations, you can use the programme select buttons of the recorder to tune in a station for viewing as well as recording.

If there are stations which do not provide satisfactory reception and you wish to erase these stations from the memory and rearrange the sequence of stations, proceed with the adjustment described in the "TO PRESET THE SATIONS ONE BY ONE" and "CLEARING UNUSED STATIONS".



TO PRESET THE STATIONS ONE BY ONE

1. Turn on the recorder by pressing the ON/STANDBY button.
2. Set the INPUT SELECT switch to TUNER.
3. Press a programme select button for the station to be preset. For information how to press the programme select buttons, see page 9.
4. If no stations have been preset before, press the + SEARCH button. (Do not keep this button depressed.) The band indicating lamp will light up to show the tuning band of the stations.
If the TV stations have been preset already, the band indicating lamp will light up to show the present tuning band. Press the + SEARCH button to locate a station with higher freqeuncy and the − SEARCH button to locate a station with lower frequency.
The band indicating lamps will change to show the current tuning band.
When each station is received, the search will stop. Repeat pressing the + or − SEARCH button, referring to the picture on TV screen, until the desired station is received. The station is now set.
5. Repeat steps 3. and 4. until every station you want has been preset.



FINE TUNING

If the automatic tuning system does not give a perfect picture on a particular channel, fine tune that station manually.

1. Press the programme select button for the station to be fine tuned.
2. Keep the + or − FINE button depressed until a clear picture is obtained. (When either of the FINE buttons is pressed, the AFT on the selected station is deactivated and the AFT lamp goes off.)
If the picture quality gets worse, release the button and press the other one. Press the − and + buttons alternately until you have the best possible picture.
3. Close the tuning compartment making sure that the AFT button is still set to OFF (the lamp is not lit).

To restore the AFT on the channel, push the AFT button so that the corresponding lamp lights.

CLEARING UNUSED STATIONS

1. Press the programme select button for the station to be cleared. For information how to press the programme select buttons, see page 9.
2. Press the RESET button.

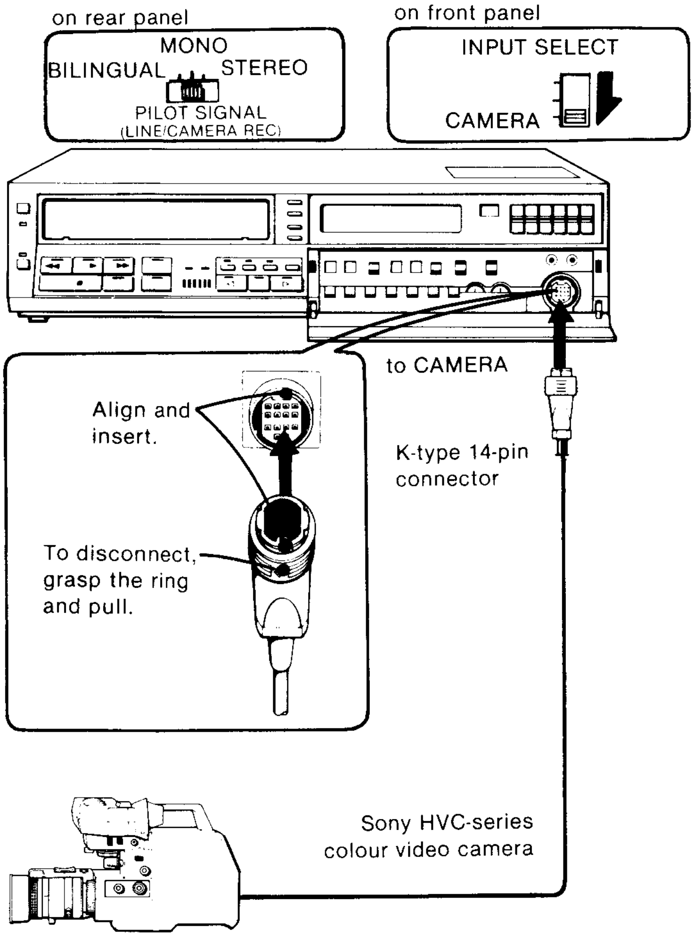
CAMERA RECORDING . . . To produce your own programmes

CONNECTIONS

- The camera must conform to CCIR PAL TV standards.
- Using a stereo camera, set the PILOT SIGNAL switch according to the recording source.

To record the sound in stereo......set to STEREO
To record the language in bilingual......set to BILINGUAL
To record the sound in monaural......set to MONO

If you record the stereo sound with the PILOT SIGNAL switch set to BILINGUAL, to play back the stereo sound in stereo, set the BILINGUAL SELELCT switch to A/B.

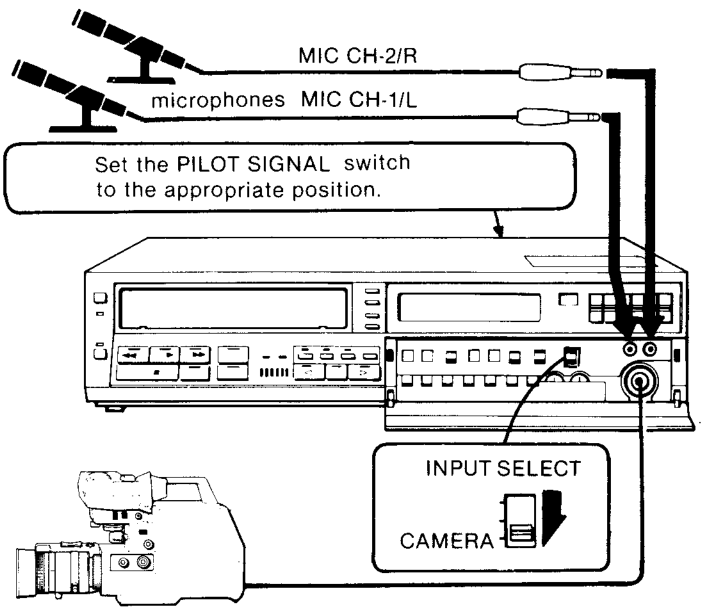

on rear panel
MONO
BILINGUAL
STEREO
PILOT SIGNAL
(LINE/CAMERA REC)
on front panel
INPUT SELECT
CAMERA
to CAMERA
Align and insert.
K-type 14-pin connector
To disconnect, grasp the ring and pull.
Sony HVC-series colour video camera

When using a monaural video camera, the sound from the microphone built into the camera is recorded on the channel 1 and the sound only from channel 1 is played back.
To play back the sound from both channel 1 and 2, record the sound with the PILOT SIGNAL switch set to BILINGUAL and play back the sound with the BILINGUAL SELECT switch set to A.

To connect a camera which is not equipped with a K-type 14-pin connector
Use an ac adaptor. Connect the video output of the ac adaptor to the VIDEO IN jack of the recorder and the audio output of the ac adaptor to the AUDIO IN CH-1/L and CH-2/R jacks or the MIC CH-1/L and CH-2/R jacks of the recorder depending on the audio output level of the ac adaptor.
Set the INPUT SELECT switch to LINE/PCM and the PILOT SIGNAL switch to MONO.

Note
If you want to use a camera not recommended in this manual, make sure that the power requirement of the camera is DC 12V and power consumption is under 10W. Otherwise, the video cassette recorder will be damaged.

To record the sound from external microphones


MIC CH-2/R
microphones MIC CH-1/L
Set the PILOT SIGNAL switch to the appropriate position.
INPUT SELECT
CAMERA

- If the microphone has a phone plug, use a plug adaptor such as the Sony PC-1A (optional).
- When one microphone is used, use a microphone adaptor to connect the microphone to MIC CH-1/L and CH-2/R jacks and set the PILOT SIGNAL switch to MONO.

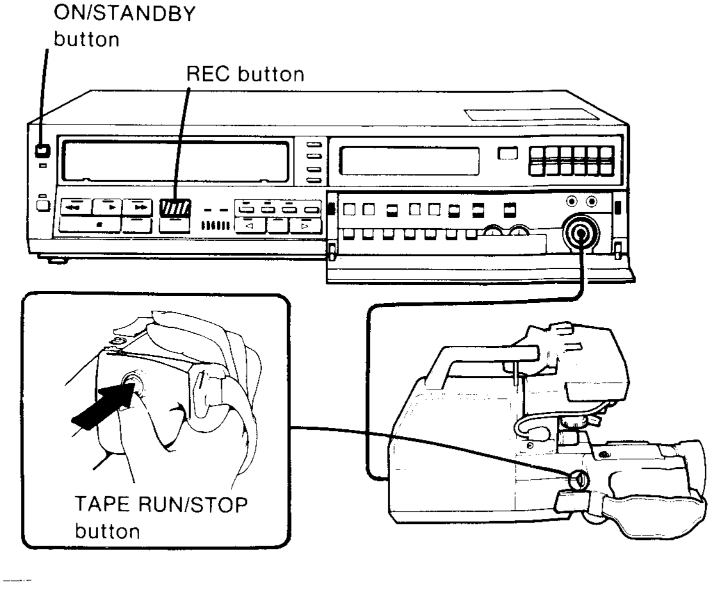
OPERATING PROCEDURE

1. Turn on the recorder and insert a cassette.
   - "CA" appears on the right of the time display indicating that the INPUT SELECT switch is properly set to the CAMERA position. If the "CA" indication does not appear, set the INPUT SELECT switch to CAMERA.
2. Make necessary adjustment on the camera. For details, refer to the camera's instruction manual.
3. Press the REC button. The recorder will be set into the recording pause mode.
4. Press the TAPE RUN/STOP button on the camera. Recording will begin.

To momentarily stop recording, press the TAPE RUN/STOP button on the camera or the PAUSE button on the recorder. To restart the recording, press the same button again.

- The pause mode will be automatically released after about 8 minutes and the recorder will revert to the record mode.

To stop recording, press the STOP button.
When the tape reaches the end, the tape will be rewound.


ON/STANDBY button
REC button
TAPE RUN/STOP button

NOTE
Do not change the INPUT SELECT switch during recording or playback when using a Sony HVC-series video camera. If you do, the recorder will be set into the pause mode. To release the pause mode, turn the power off and turn it on again.

TO MONITOR THE PICTURE BEING RECORDED WITH A CAMERA

Turn on the TV and select the channel for the video recorder.
If your TV is equipped with a TV/VTR select button, set this button to VTR.

RECORDING REVIEW

When a camera having a recording review function is used
Press the recording review button in the recording pause mode. The last few seconds of recorded scene will be played back immediately so that you can check whether the recording has been made correctly. The recorder will then enter the recording pause mode at the point where the recording review button was pressed. To continue recording, press the tape run/stop button on the camera.

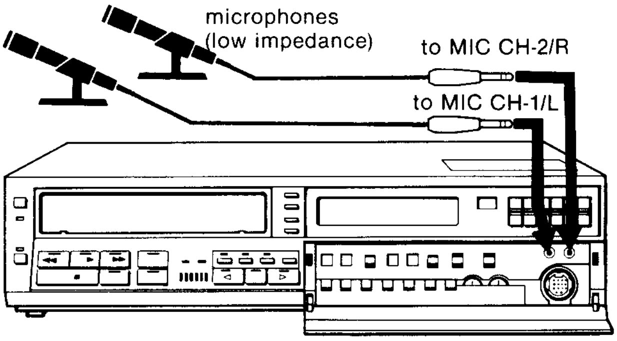
DUBBING AUDIO

You can dub in music or commentary on any recorded tape while watching the recorded video.
Audio is recorded on two channels on the tape: channel 1 and channel 2.
You can replace the sound of all these two channels or the audio channel 2.

- Audio dubbing cannot be done on a blank tape.
- To dub on channel 2, connect the microphone to CH-2/R jack.

CONNECTIONS

To record microphone sound

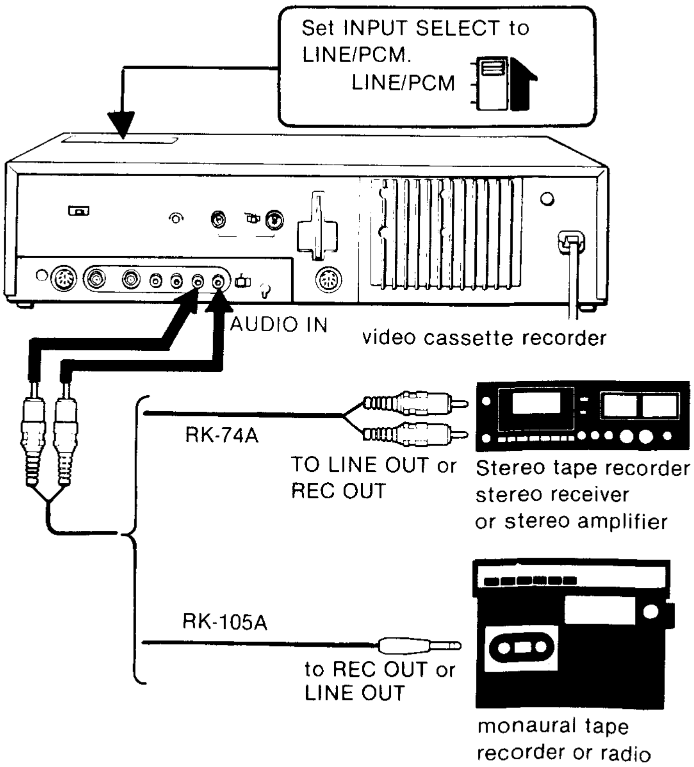

microphones
(low impedance)
to MIC CH-2/R
to MIC CH-1/L

video cassette recorder

If your microphone has a phone plug, use the PC-1A plug adaptor (optional).

The microphone sound will be recorded regardless of the INPUT SELECT switch position.

To record from an audio equipment


Set INPUT SELECT to LINE/PCM.
LINE/PCM
AUDIO IN
video cassette recorder
RK-74A
TO LINE OUT or REC OUT
Stereo tape recorder stereo receiver or stereo amplifier
RK-105A
to REC OUT or LINE OUT
monaural tape recorder or radio

HOW TO DUB

First, decide at which point on the tape you will start audio dubbing and make the necessary preparations for playing the audio source.

1. Turn the power of the recorder on and insert a cassette. Be sure that the cassette's safety tab has not been removed.

● When using source other than microphones make sure that "AU" appears on the time display indicating that the INPUT SELECT switch is set to LINE/PCM.

2. Press the ▶ PLAY button. Playback will begin.
3. Press the PAUSE button at the point where audio dubbing is to start.
4. Press the AUDIO DUB button.
   If you want to erase the previously recorded sound and completely replace, press the CH-1,2/L,R button.
   If you want to replace the sound of the audio channel 2 with new one, press the CH-2/R button.

The corresponding AUDIO DUB lamp(s) will light.

5. Set the PILOT SIGNAL switch according to the sound source to be recorded.
6. Press the PAUSE button again.

Audio dubbing starts.

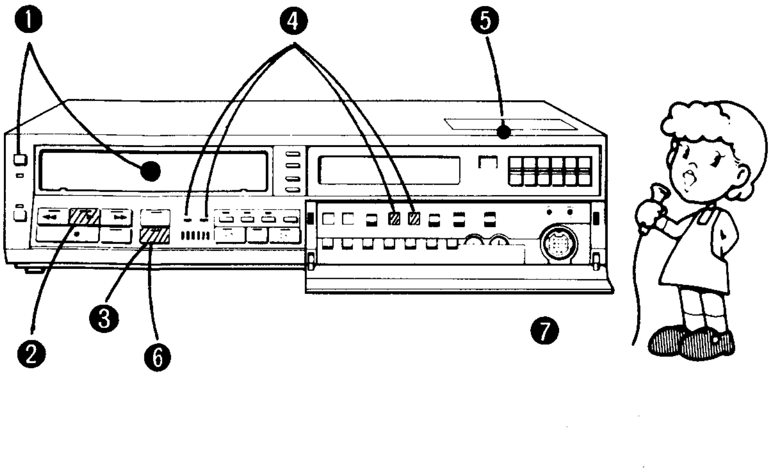
7. Start playing the audio source—talking into the microphone, playing the tape recorder, etc.

To stop the tape momentarily during dubbing, press the PAUSE button.

To stop dubbing, press the ■ STOP button.

If a whistle-like sound is heard during microphone recording
Stop pointing the microphone in the direction of the TV or turn the TV volume down.

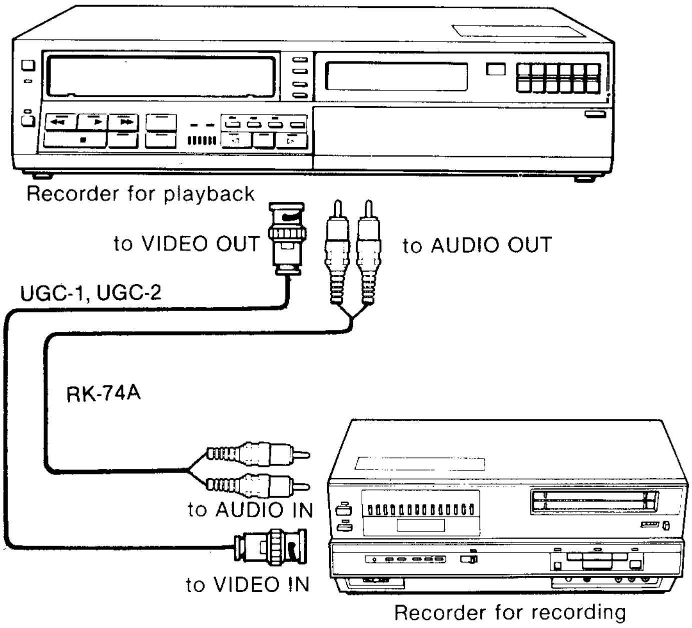
To record from the beginning of the tape
Press the AUDIO DUB button. Audio recording and picture playback will start immediately.



TAPE COPY

To duplicate a tape, you will need two video recorders; one is to play back the original tape and the other is to record.

1. Connect the recorders as illustrated.
2. Turn on both recorders.
3. Insert the original cassette into the recoder for playback.
4. Insert a blank cassette into the recorder for recording.
5. Set the INPUT SELECT switch of the recorder for recording to LINE/PCM.
6. Set the recorder for playback into the playback mode.
7. Set the recorder for recording into the record mode.



When the SL-C9ES is used for recording, select the PILOT SIGNAL switch according to the sound source to be recorded.

TROUBLE CHECKS

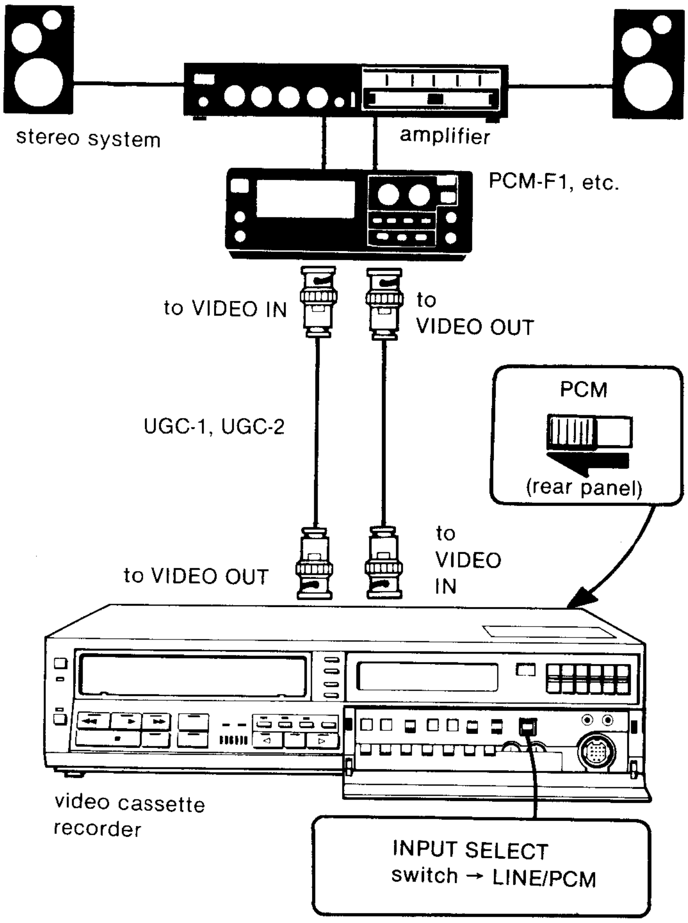
If any diffculty should arise during operation, check through this list of symptoms and possible causes. Should the difficulty persist, unplug the unit and contact the dealer from whom this unit was purchased, or local Sony authorized dealer.

Before going through the check list below, first check to see whether the mains lead is connected firmly to a working outlet and whether the POWER switch and ON/STANDBY button are turned ON.

	Symptom	Possible causes and corrections
POWER	ON/STANDBY button does not function.	● The mains lead is disconnected or the POWER button is not pressed. ● The recorder is in the timer standby mode. Press the TIMER REC button so that the TIMER lamp goes off.
CLOCK AND TIMER	The clock has stopped at "0:00"	● There has been a power interruption. Reset the clock time and timer settings.
	Timer setting cannot be made.	● The clock time is not set
TV RECEPTION	TV programme is not clearly displayed on the TV screen.	● The channel for video recorder on the TV receiver is not correctly tuned. ● The channels on the recorder are not correctly preset. (See "TV STATION PRESETTING", page 26.) ● The antenna connections are not correct. ● The TV signal is weak. Adjust the direction of the antenna. ● The mains lead of the recorder is disconnected.
RECORDING AND PLAYBACK	No picture on the TV screen during recording or playback	● The TV's channel is not set to that preset for the video recorder. ● The station preset for the video recorder has not been fine-tuned.
	No recording	● The safety tab on the cassette has been removed.
	The desired programme has not been recorded.	● The INPUT SELECT switch has not been set correctly. ● When camera recording, the tape run/stop button on the camera has not been operated correctly.
	The displayed picture on the TV screen is not clear.	● The channel preset for the video recorder on the TV has not been fine-tuned. ● The video heads are contaminated. ● The cassette being played has been recorded on another video recorder. Adjust the NORMAL/×2 TRACKING control.
	Timer recording cannot be made correctly.	● The clock time is not set correctly. ● The turn-on day and the turn-on time have not been set correctly. ● The TIMER REC button has not been pressed. ● There has been a power interruption. ● The cassette inserted has had the tab removed or no cassette has been inserted. ● The INPUT SELECT switch is not set to TUNER. ● Two or more timer settings overlap.
REMOTE CONTROL	The recorder cannot be remotely controlled.	● The remote control unit is not pointed to the detector on the recorder. ● The remote control unit is too far away from the recorder. ● An obstacle between the remote control unit and the recorder. ● The batteries are exhausted.
OTHERS	The time counter does not operate even if the tape moves.	● The tape is brand-new. ● It will not operate with the unrecorded portion of a tape.
	The function buttons cannot be activated.	● The tape is at either end of its travel.
	Cassette cannot be inserted.	● The recorder is turned off. ● The cassette being inserted is reversed. ● Another cassette has already been inserted.
	The cassette cannot be ejected.	● The recorder is turned off. ● The tape is moving
	Audio dubbing cannot be made.	● The cassette inserted has had its safety tab removed. ● The tape to be dubbed is blank. ● When the AUDIO IN jacks are used, nothing should be connected to the MIC jacks and the INPUT SELECT switch should be set to LINE/PCM.
	The tape stops suddenly during operation.	● The safety device which protects the video cassette tape and recorder has activated. Reactivate the previous tape transport mode.
	The function buttons cannot be activated with the EJECT lamp lit, immediately after the cassette has been inserted into the recorder.	● The safety device has activated. Press the EJECT button to remove the cassette and re-insert the cassette.

PCM RECORDING AND PLAYBACK

By connecting a PCM digital audio processor (Sony PCM-F1, etc.) you can enjoy hi-fi sound reproduction with a wide dynamic range, minimal distortion and a flat frequency response.


stereo system
amplifier
PCM-F1, etc.
to VIDEO IN
to VIDEO OUT
UGC-1, UGC-2
PCM
(rear panel)
to VIDEO OUT
to VIDEO IN
video cassette recorder
INPUT SELECT switch → LINE/PCM

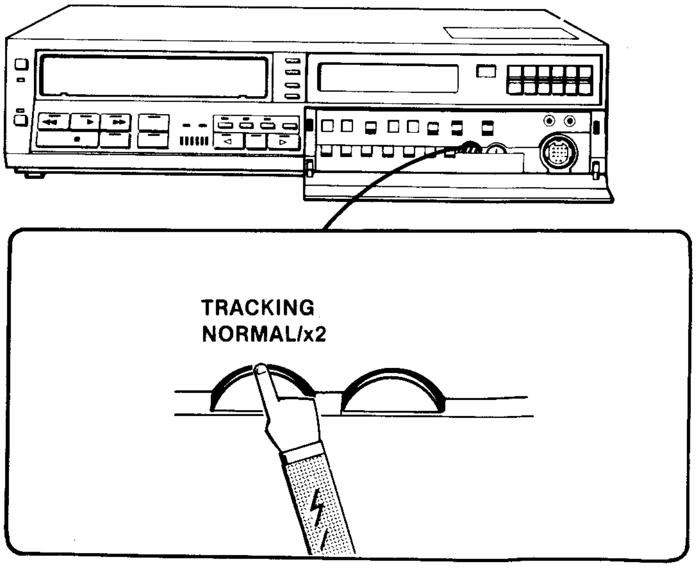
- For optimum results, use a video cassette with a model number L-500 or less (L-250, L-125, etc.).
- For details, refer to the instruction manual furnished with the digital audio processor.

HOW IS THE PICTURE ON THE SCREEN?

Noisy picture ...

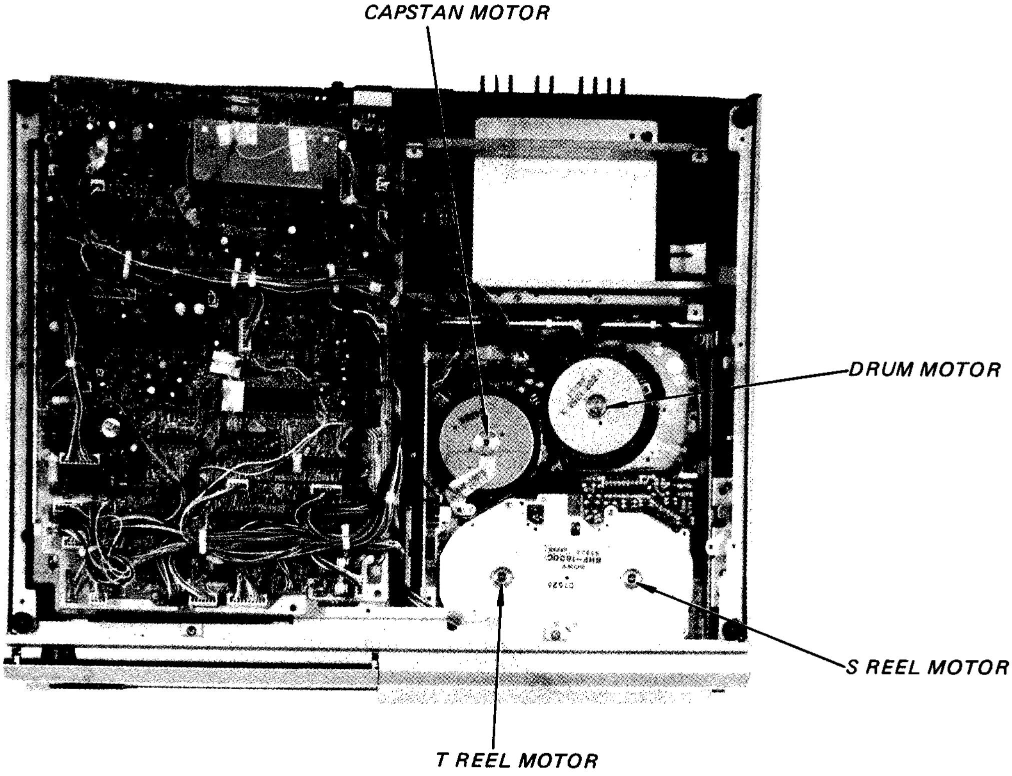
The video heads may become contaminated.
Clean the video heads with the L-25CL video head cleaning cassette (optional). For details about cleaning, refer to the instructions frunished with the cleaning cassette.

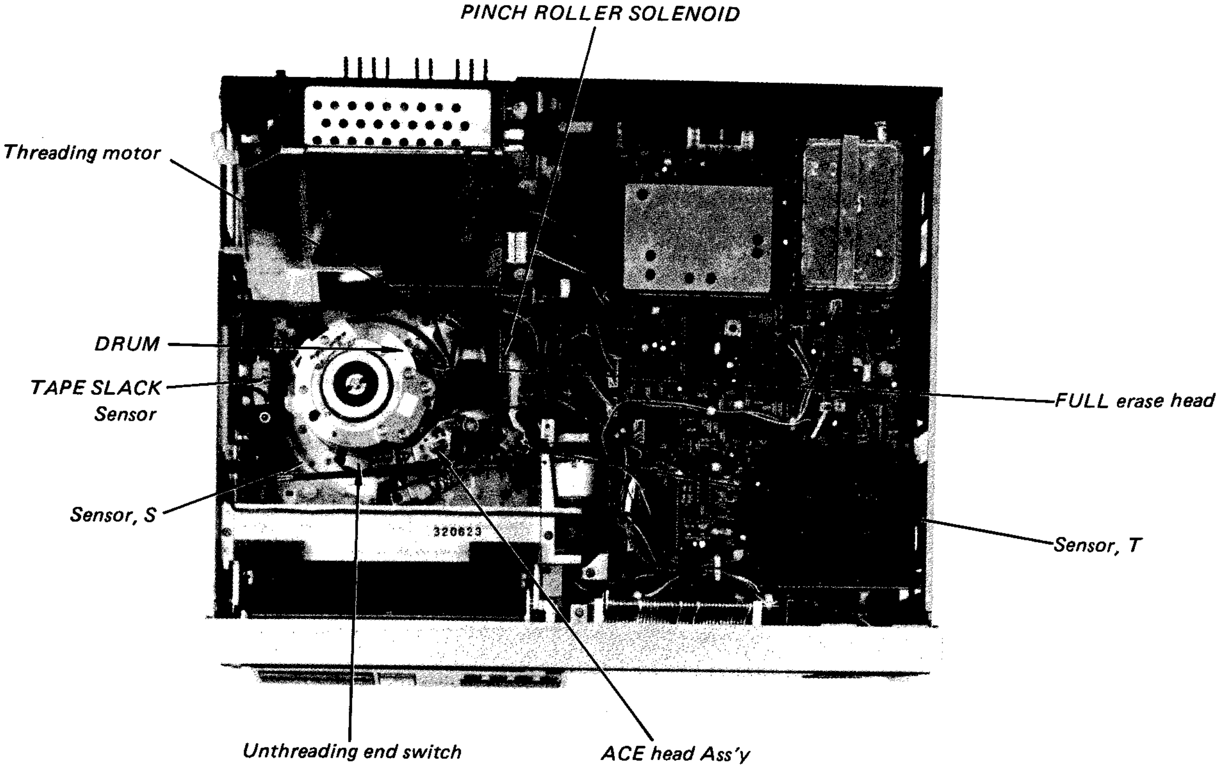
Streaks or snow appears ...


TRACKING
NORMAL/x2

Has the tape been recorded on another video cassette recorder?
If so, open the front compartment and adjust the NORMAL/x2 TRACKING control for the best possible picture.
Return the control to the centre position after viewing a tape recorded on another machine.

- **INTERNAL VIEWS**


CAPSTAN MOTOR
DRUM MOTOR
S REEL MOTOR
T REEL MOTOR


PINCH ROLLER SOLENOID
Threading motor
DRUM
TAPE SLACK Sensor
FULL erase head
Sensor, S
Sensor, T
Unthreading end switch
ACE head Ass'y

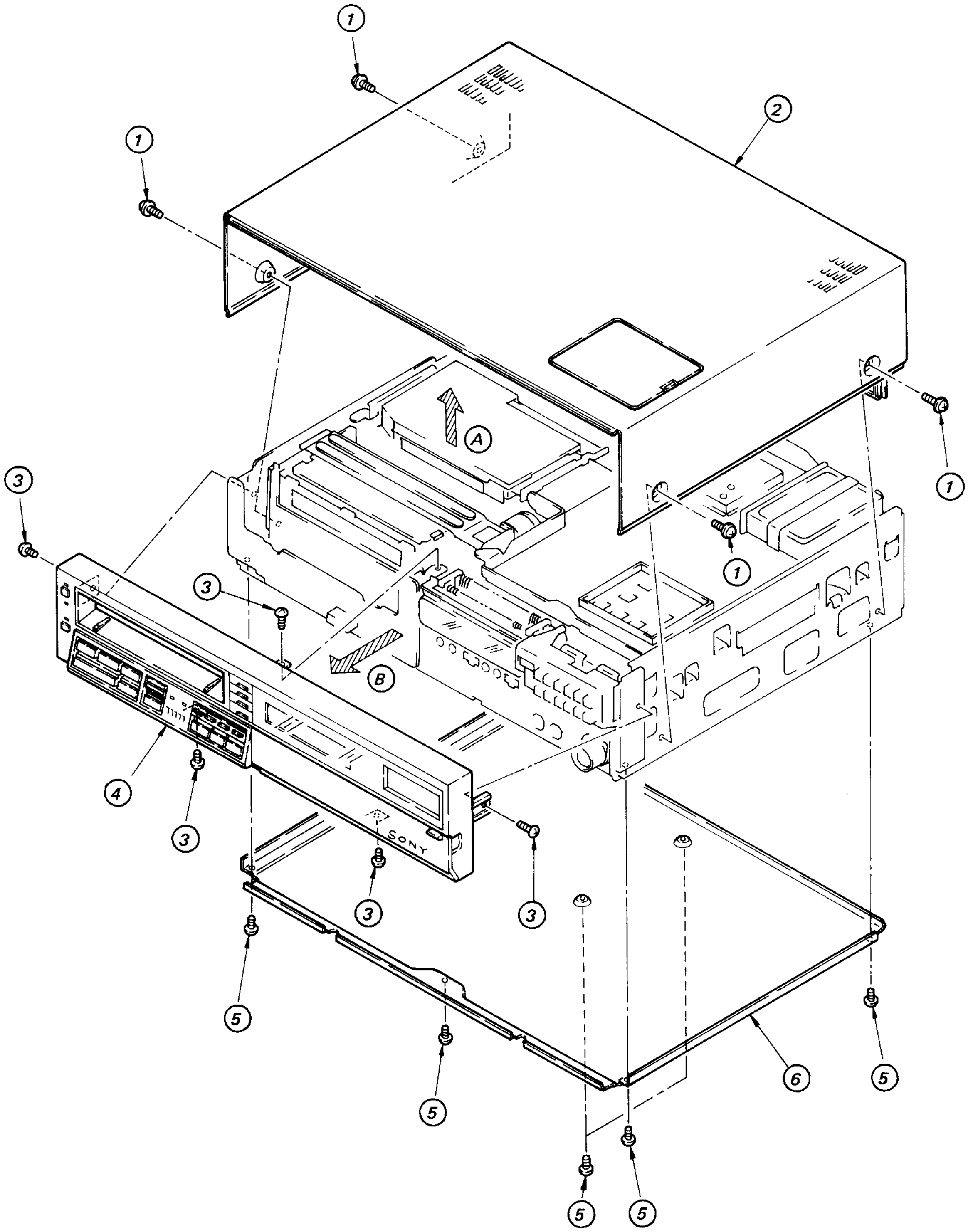
SECTION 2

DISASSEMBLY (AND REPLACEMENT)

Note: Follow the disassembly procedure in the numerical order given.

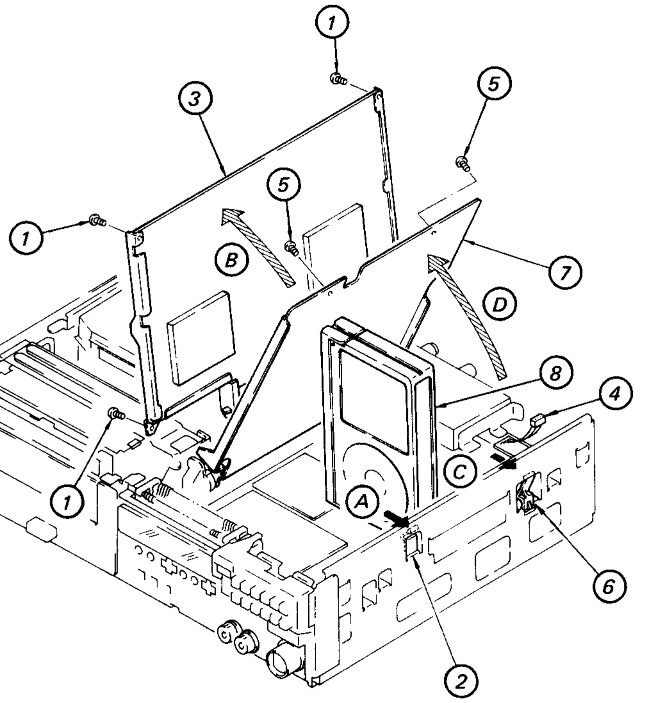
2-1. Cover Removal

1. Remove the four screws ①.
2. Remove upper cover ② in the direction of arrow Ⓐ.
3. Remove the five screws ③.
4. Remove front panel ④ in the direction of arrow Ⓑ.
5. Remove the seven screws ⑤.
6. Remove the bottom plate ⑥.



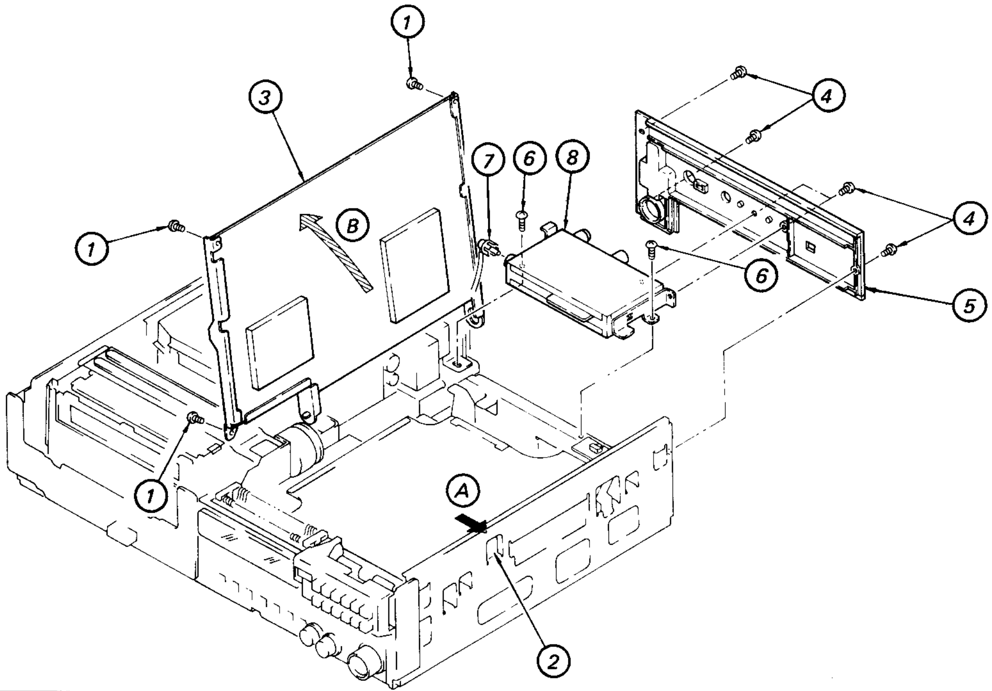
2-2. TU-35 Board, JR-2 Board Removal

1. Remove the three screws ①.
2. Pull PC support ② in the direction of arrow Ⓐ, and remove the TU-35 board ③ retainer.
3. Pull TU-35 board ③ up in the direction of arrow Ⓑ.
4. Disconnect harness ④ from the JR-2 board ⑥.
5. Remove the two screws ⑤.
6. Push chassis supporter ⑥ in the direction of arrow Ⓒ and remove the JR-2 board ⑦ retainer.
7. Pull JR-2 board ⑦ up in the direction of arrow Ⓓ, and position a tape ⑧ as shown in Figure to support the JR-2 board.



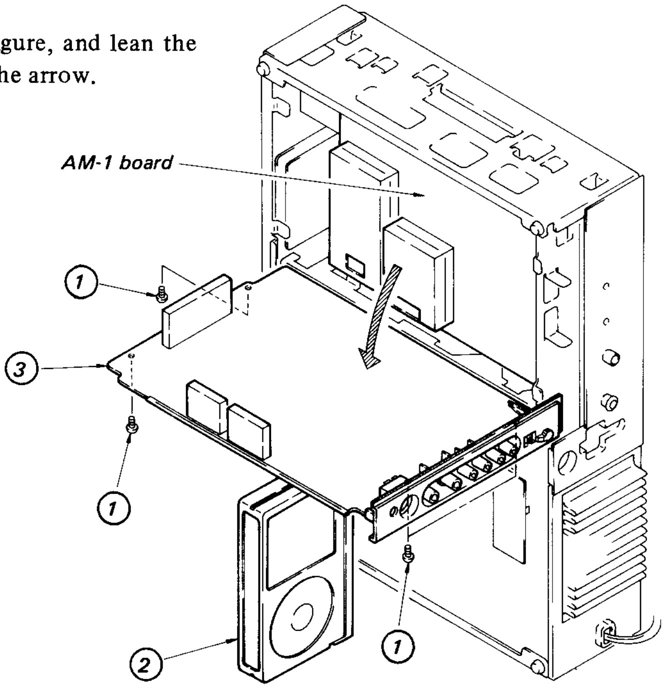
2-3. RF Modulator Removal

1. Remove the three screws ①, push PC support ② in the direction of arrow Ⓐ, and pull the TU-35 board up in the direction of arrow Ⓑ.
2. Remove the four screw ④ and rear panel ⑤.
3. Remove the two screws ⑥.
4. Remove pin cable ⑦.
5. Remove the RF modulator ⑧.



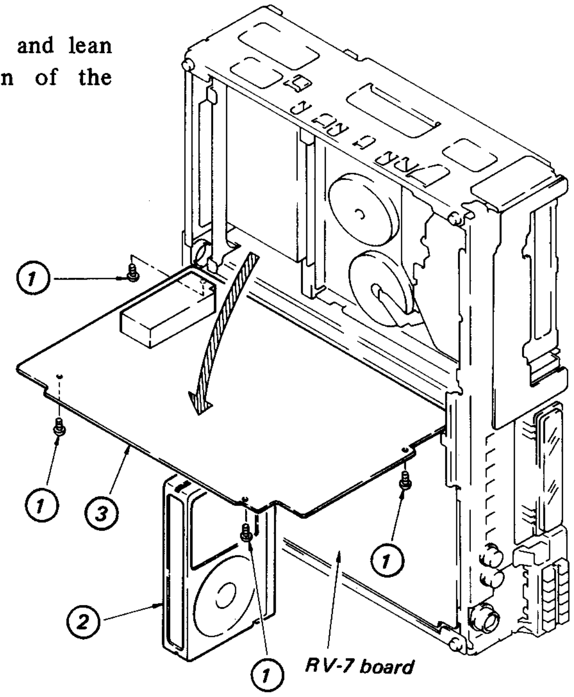
2-4. RV-7 Board Removal

1. Position the VTR as shown in Figure.
2. Remove the four screws ①.
3. Place a tape ② as shown in Figure, and lean the RV-7 board in the direction of the arrow.



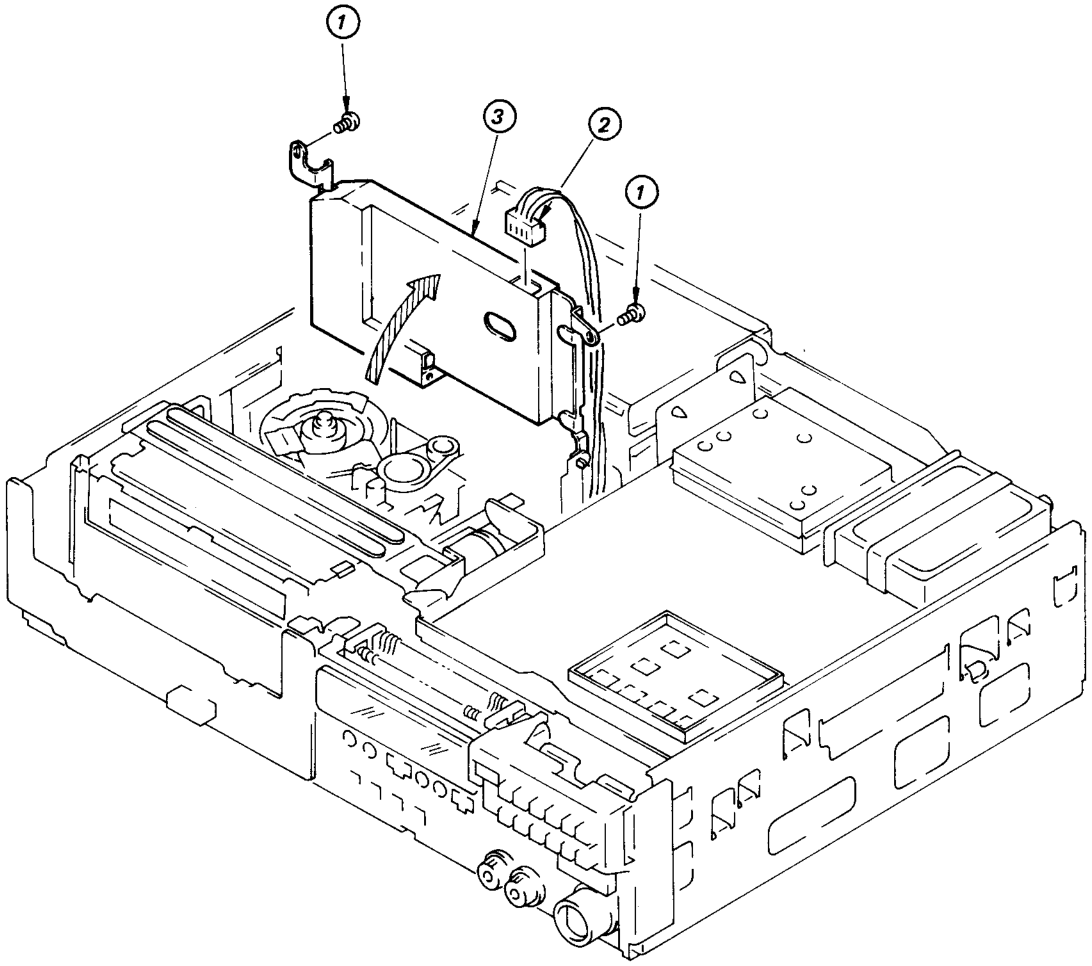
2-5. SS-11 Board Removal

1. Set up the VTR as shown in Figure, with the RV-7 board toward the bottom.
2. Remove the four screws ①.
3. Place a tape ② as shown in Figure, and lean the SS-11 board ③ in the direction of the arrow.



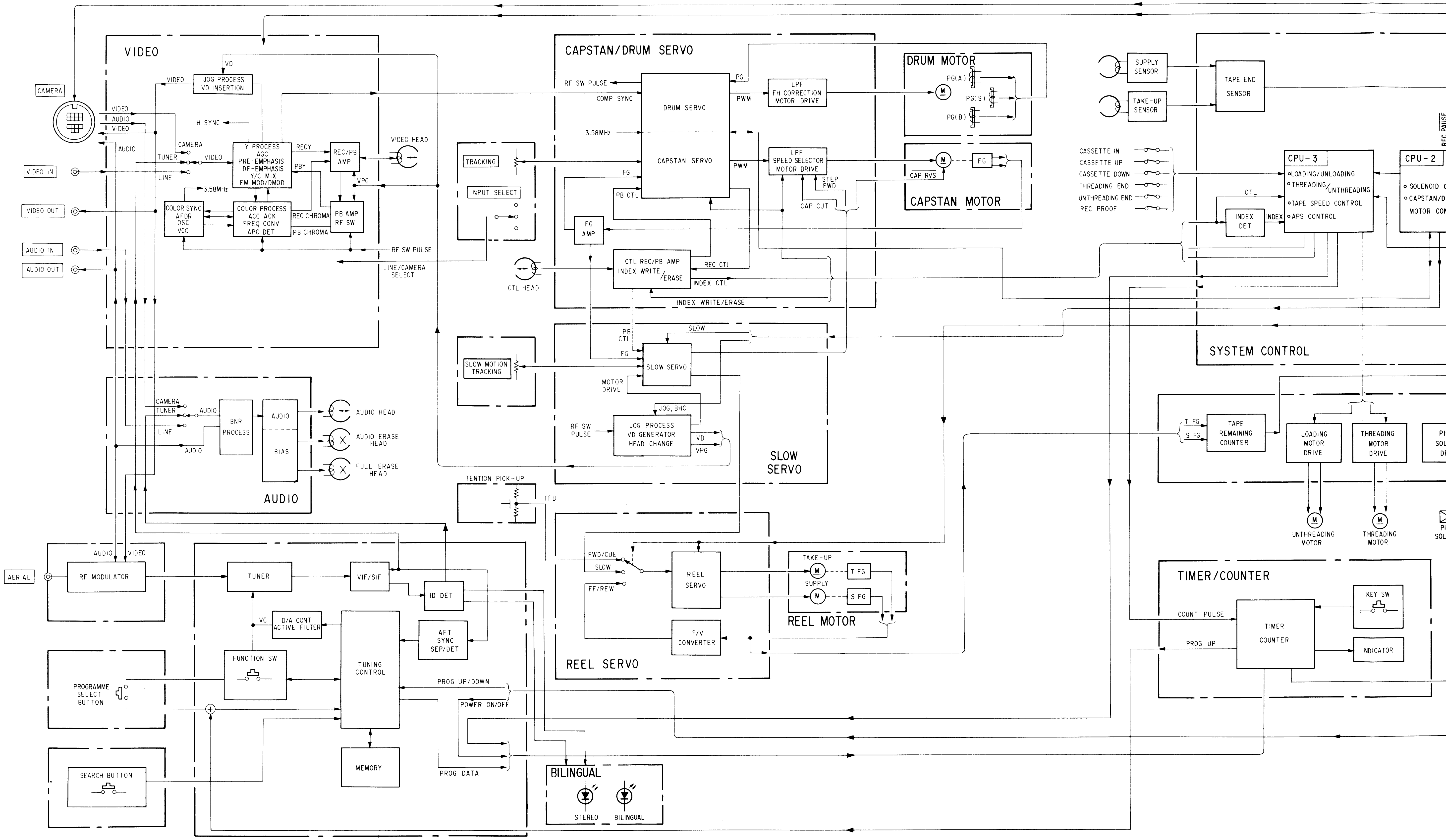
2-6. RP-7 Board Removal

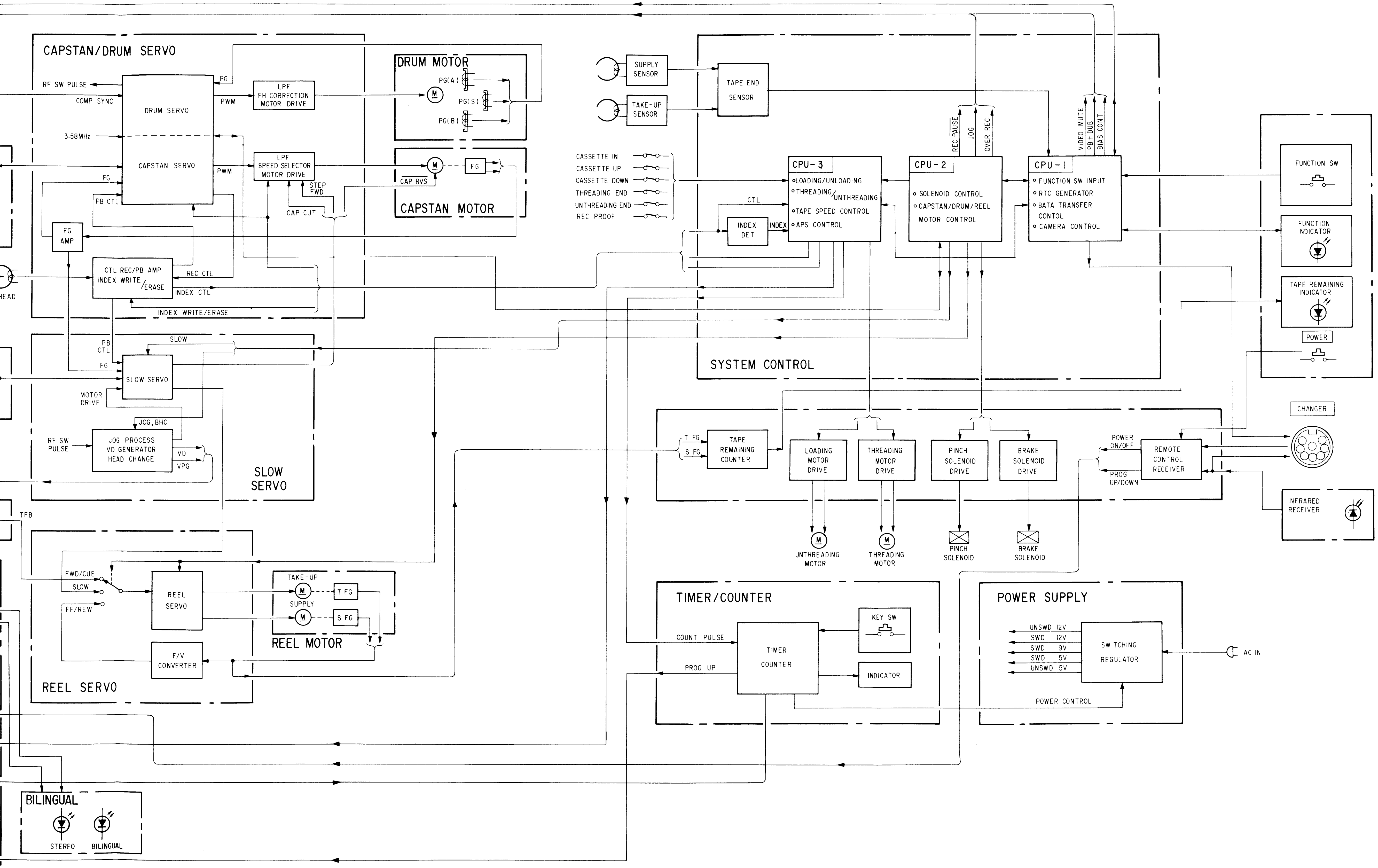
1. Remove the two screws ①.
2. Disconnect harness ②.
3. Lift RP-7 board ③ in the direction of the arrow.



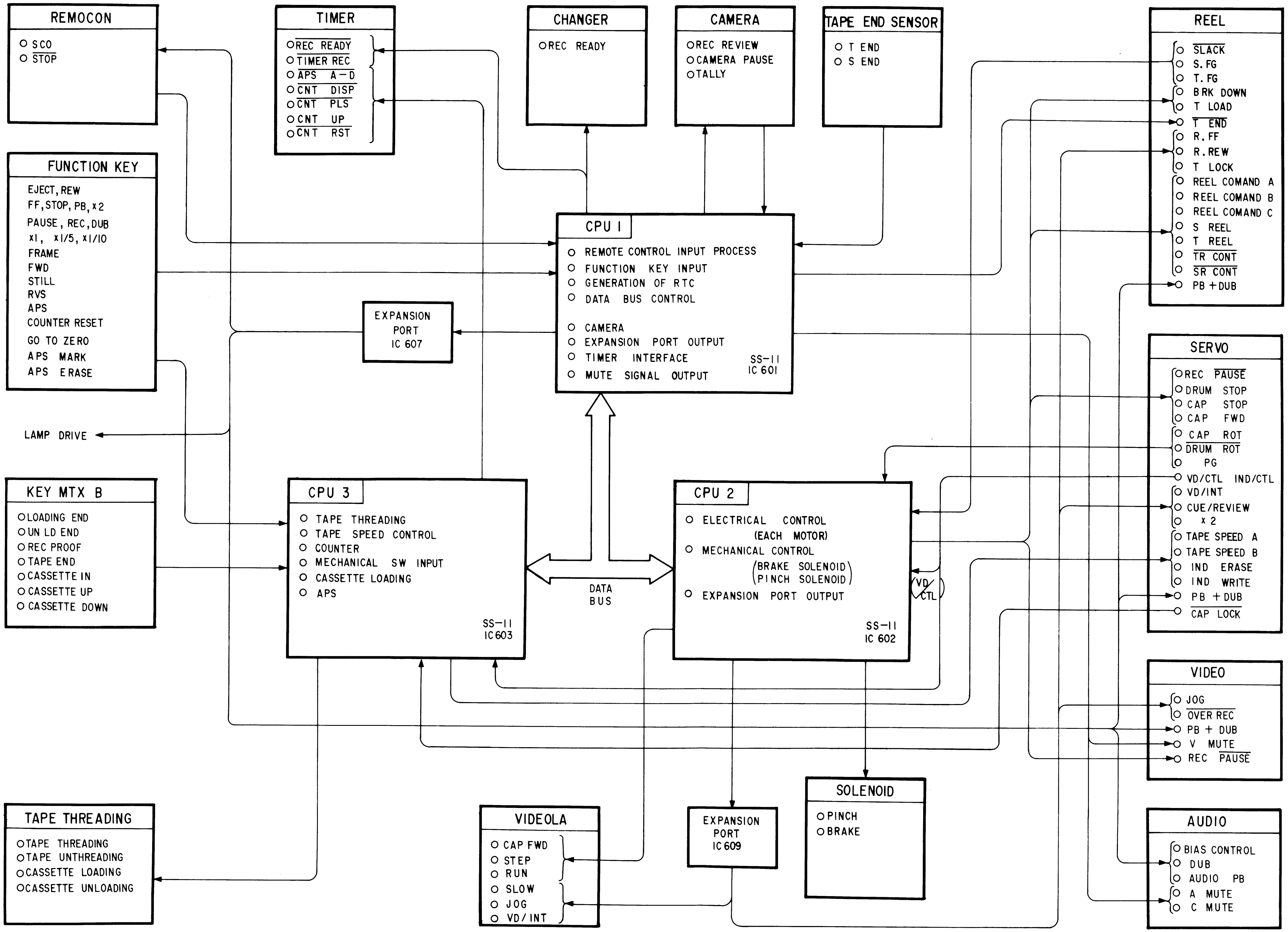
SECTION 3
DIAGRAMS

3-1. OVERALL BLOCK DIAGRAM

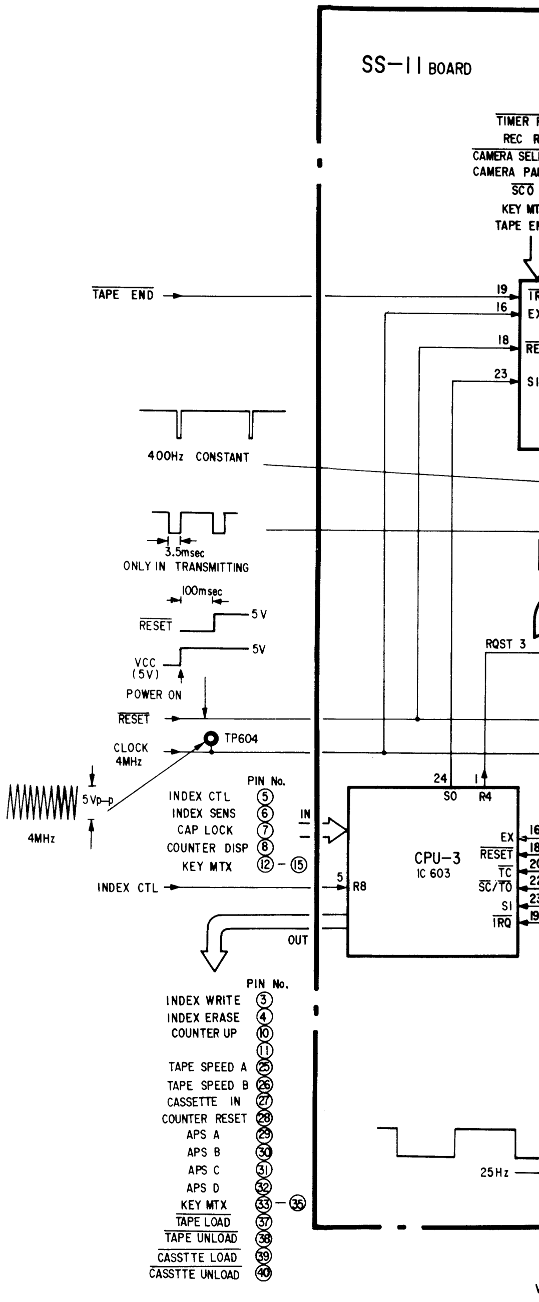

VIDEO
CAMERA
VIDEO
AUDIO
VIDEO
AUDIO
VIDEO IN
VIDEO OUT
AUDIO IN
AUDIO OUT
VD
VIDEO
JOG PROCESS
VD INSERTION
H SYNC
CAMERA
TUNER
VIDEO
LINE
Y PROCESS
AGC
PRE-EMPHASIS
DE-EMPHASIS
Y/C MIX
FM MOD/DMOD
RECY
PBY
REC/PB
AMP
VIDEO HEAD
VPG
3.58MHz
COLOR SYNC
AFDR
OSC
VCO
COLOR PROCESS
ACC ACK
FREQ CONV
APC DET
REC CHROMA
PB CHROMA
PB AMP
RF SW
RF SW PULSE
LINE/CAMERA
SELECT
CAMERA
TUNER
LINE
AUDIO
AUDIO
BNR
PROCESS
AUDIO
BIAS
AUDIO HEAD
AUDIO ERASE
HEAD
FULL ERASE
HEAD
AUDIO
AERIAL
AUDIO
VIDEO
RF MODULATOR
TUNER
VIF/SIF
ID DET
VC
D/A CONT
ACTIVE FILTER
AFT
SYNC
SEP/DET
FUNCTION SW
TUNING
CONTROL
PROG UP/DOWN
POWER ON/OFF
MEMORY
PROG DATA
PROGRAMME
SELECT
BUTTON
SEARCH BUTTON
BILINGUAL
STEREO
BILINGUAL
TRACKING
INPUT SELECT
CTL HEAD
SLOW MOTION
TRACKING
TENTION PICK-UP
TFB
CAPSTAN/DRUM SERVO
RF SW PULSE
COMP SYNC
3.58MHz
DRUM SERVO
CAPSTAN SERVO
PG
PWM
PWM
FG
PB CTL
FG
AMP
CTL REC/PB AMP
INDEX WRITE/ERASE
REC CTL
INDEX CTL
INDEX WRITE/ERASE
LPF
FH CORRECTION
MOTOR DRIVE
LPF
SPEED SELECTOR
MOTOR DRIVE
STEP
FWD
CAP CUT
DRUM MOTOR
PG(A)
PG(S)
PG(B)
M
FG
CAP RVS
CAPSTAN MOTOR
PB
CTL
SLOW
FG
SLOW SERVO
MOTOR
DRIVE
JOG, BHC
RF SW
PULSE
JOG PROCESS
VD GENERATOR
HEAD CHANGE
VD
VPG
SLOW
SERVO
FWD/CUE
SLOW
FF/REW
REEL
SERVO
F/V
CONVERTER
REEL SERVO
TAKE-UP
SUPPLY
T FG
S FG
REEL MOTOR
SUPPLY
SENSOR
TAKE-UP
SENSOR
TAPE END
SENSOR
CASSETTE IN
CASSETTE UP
CASSETTE DOWN
THREADING END
UNTHREADING END
REC PROOF
CPU-3
LOADING/UNLOADING
THREADING/UNTHREADING
TAPE SPEED CONTROL
APS CONTROL
CTL
INDEX
DET
INDEX
CPU-2
SOLENOID C
CAPSTAN/D
MOTOR CON
REC PAUSE
SYSTEM CONTROL
T FG
S FG
TAPE
REMAINING
COUNTER
LOADING
MOTOR
DRIVE
THREADING
MOTOR
DRIVE
PI
SOL
DI
M
UNTHREADING
MOTOR
THREADING
MOTOR
PI
SOL
TIMER/COUNTER
COUNT PULSE
PROG UP
TIMER
COUNTER
KEY SW
INDICATOR

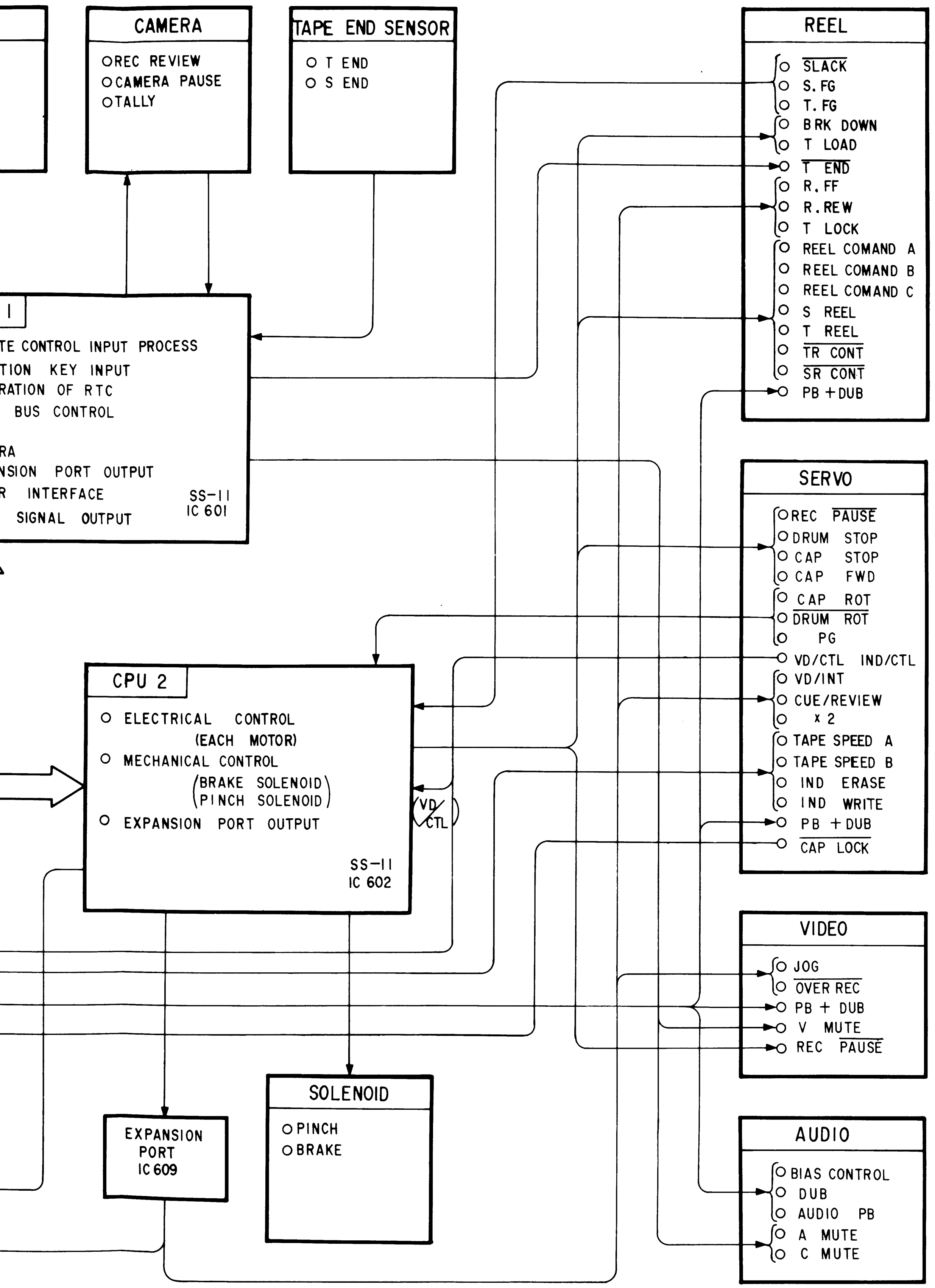

CAPSTAN/DRUM SERVO
RF SW PULSE
COMP SYNC
DRUM SERVO
PG
PWM
LPF
FH CORRECTION
MOTOR DRIVE
3.58MHz
CAPSTAN SERVO
PWM
LPF
SPEED SELECTOR
MOTOR DRIVE
STEP
FWD
CAP CUT
FG
PB CTL
FG
AMP
CTL REC/PB AMP
INDEX WRITE/ERASE
REC CTL
INDEX CTL
INDEX WRITE/ERASE
HEAD
DRUM MOTOR
PG(A)
PG(S)
PG(B)
M
CAP RVS
M
FG
CAPSTAN MOTOR
SLOW
PB
CTL
FG
SLOW SERVO
MOTOR
DRIVE
JOG, BHC
RF SW
PULSE
JOG PROCESS
VD GENERATOR
HEAD CHANGE
VD
VPG
SLOW
SERVO
TFB
FWD/CUE
SLOW
FF/REW
REEL
SERVO
F/V
CONVERTER
REEL SERVO
TAKE-UP
M
T FG
SUPPLY
M
S FG
REEL MOTOR
BILINGUAL
STEREO
BILINGUAL
SUPPLY
SENSOR
TAKE-UP
SENSOR
TAPE END
SENSOR
CASSETTE IN
CASSETTE UP
CASSETTE DOWN
THREADING END
UNTHREADING END
REC PROOF
CTL
INDEX
DET
INDEX
CPU-3
LOADING/UNLOADING
THREADING/UNTHREADING
TAPE SPEED CONTROL
APS CONTROL
REC PAUSE
JOG
OVER REC
CPU-2
SOLENOID CONTROL
CAPSTAN/DRUM/REEL
MOTOR CONTROL
VIDEO MUTE
PB + DUB
BIAS CONT
CPU-1
FUNCTION SW INPUT
RTC GENERATOR
BATA TRANSFER
CONTOL
CAMERA CONTROL
SYSTEM CONTROL
FUNCTION SW
FUNCTION
INDICATOR
TAPE REMAINING
INDICATOR
POWER
CHANGER
T FG
S FG
TAPE
REMAINING
COUNTER
LOADING
MOTOR
DRIVE
THREADING
MOTOR
DRIVE
PINCH
SOLENOID
DRIVE
BRAKE
SOLENOID
DRIVE
POWER
ON/OFF
PROG
UP/DOWN
REMOTE
CONTROL
RECEIVER
INFRARED
RECEIVER
M
UNTHREADING
MOTOR
M
THREADING
MOTOR
PINCH
SOLENOID
BRAKE
SOLENOID
TIMER/COUNTER
COUNT PULSE
PROG UP
TIMER
COUNTER
KEY SW
INDICATOR
POWER SUPPLY
UNSWD 12V
SWD 12V
SWD 9V
SWD 5V
UNSWD 5V
SWITCHING
REGULATOR
POWER CONTROL
AC IN

3-2. SYSTEM CONTROL BLOCK DIAGRAM (1)

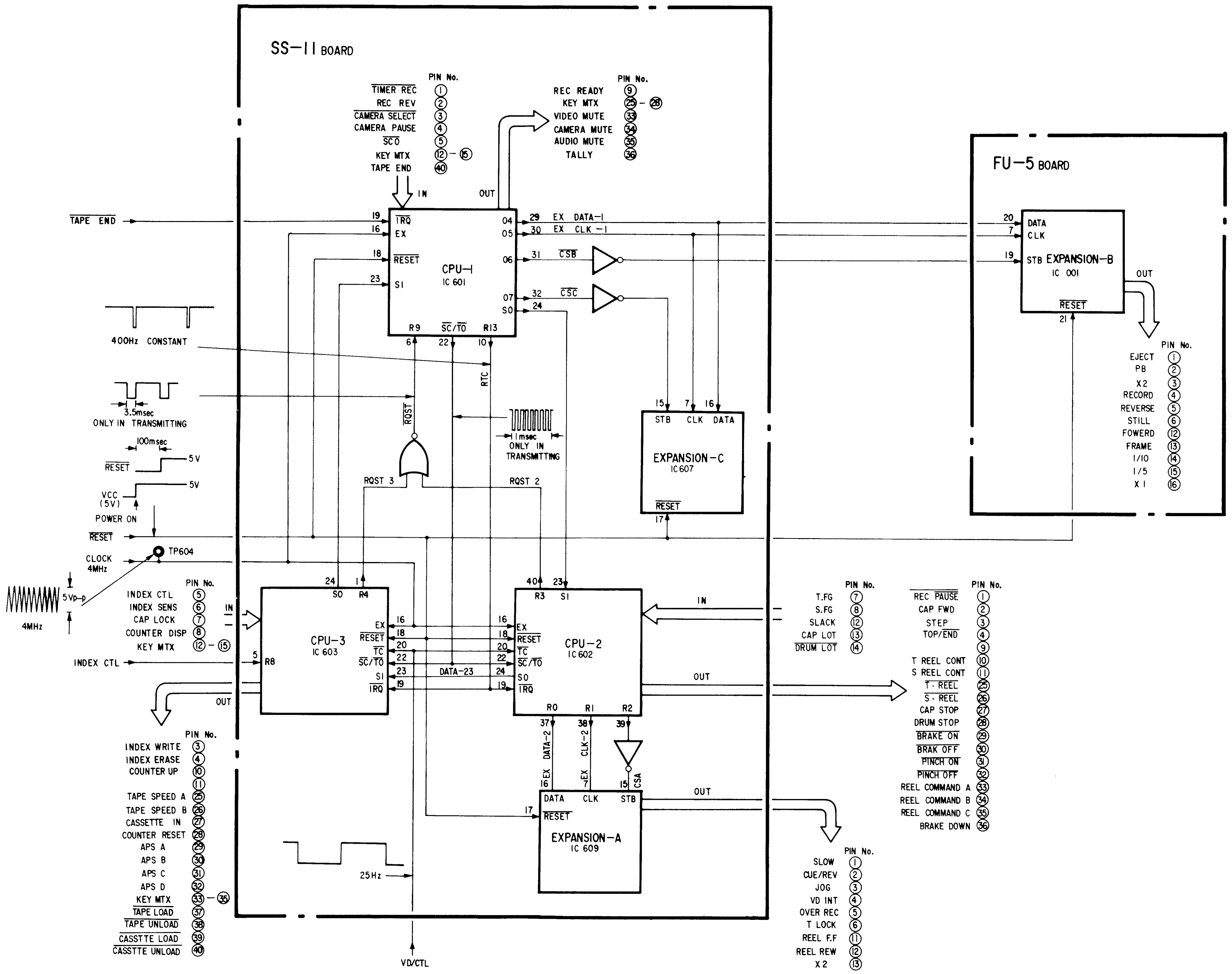

REMOCON
O SCO
O STOP
TIMER
O REC READY
O TIMER REC
O APS A–D
O CNT DISP
O CNT PLS
O CNT UP
O CNT RST
CHANGER
O REC READY
CAMERA
O REC REVIEW
O CAMERA PAUSE
O TALLY
TAPE END SENSOR
O T END
O S END
REEL
O SLACK
O S. FG
O T. FG
O BRK DOWN
O T LOAD
O T END
O R. FF
O R. REW
O T LOCK
O REEL COMAND A
O REEL COMAND B
O REEL COMAND C
O S REEL
O T REEL
O TR CONT
O SR CONT
O PB + DUB
FUNCTION KEY
EJECT, REW
FF, STOP, PB, x2
PAUSE, REC, DUB
x1, x1/5, x1/10
FRAME
FWD
STILL
RVS
APS
COUNTER RESET
GO TO ZERO
APS MARK
APS ERASE
EXPANSION PORT IC 607
CPU 1
O REMOTE CONTROL INPUT PROCESS
O FUNCTION KEY INPUT
O GENERATION OF RTC
O DATA BUS CONTROL
O CAMERA
O EXPANSION PORT OUTPUT
O TIMER INTERFACE
O MUTE SIGNAL OUTPUT
SS–11 IC 601
LAMP DRIVE
SERVO
O REC PAUSE
O DRUM STOP
O CAP STOP
O CAP FWD
O CAP ROT
O DRUM ROT
O PG
O VD/CTL IND/CTL
O VD/INT
O CUE/REVIEW
O x 2
O TAPE SPEED A
O TAPE SPEED B
O IND ERASE
O IND WRITE
O PB + DUB
O CAP LOCK
KEY MTX B
O LOADING END
O UN LD END
O REC PROOF
O TAPE END
O CASSETTE IN
O CASSETTE UP
O CASSETTE DOWN
CPU 3
O TAPE THREADING
O TAPE SPEED CONTROL
O COUNTER
O MECHANICAL SW INPUT
O CASSETTE LOADING
O APS
SS–11 IC603
DATA BUS
CPU 2
O ELECTRICAL CONTROL (EACH MOTOR)
O MECHANICAL CONTROL (BRAKE SOLENOID PINCH SOLENOID)
O EXPANSION PORT OUTPUT
SS–11 IC 602
VD/CTL
VIDEO
O JOG
O OVER REC
O PB + DUB
O V MUTE
O REC PAUSE
TAPE THREADING
O TAPE THREADING
O TAPE UNTHREADING
O CASSETTE LOADING
O CASSETTE UNLOADING
VIDEOLA
O CAP FWD
O STEP
O RUN
O SLOW
O JOG
O VD/INT
EXPANSION PORT IC 609
SOLENOID
O PINCH
O BRAKE
AUDIO
O BIAS CONTROL
O DUB
O AUDIO PB
O A MUTE
O C MUTE

SYSTEM CONTROL BLOCK DIAGRAM

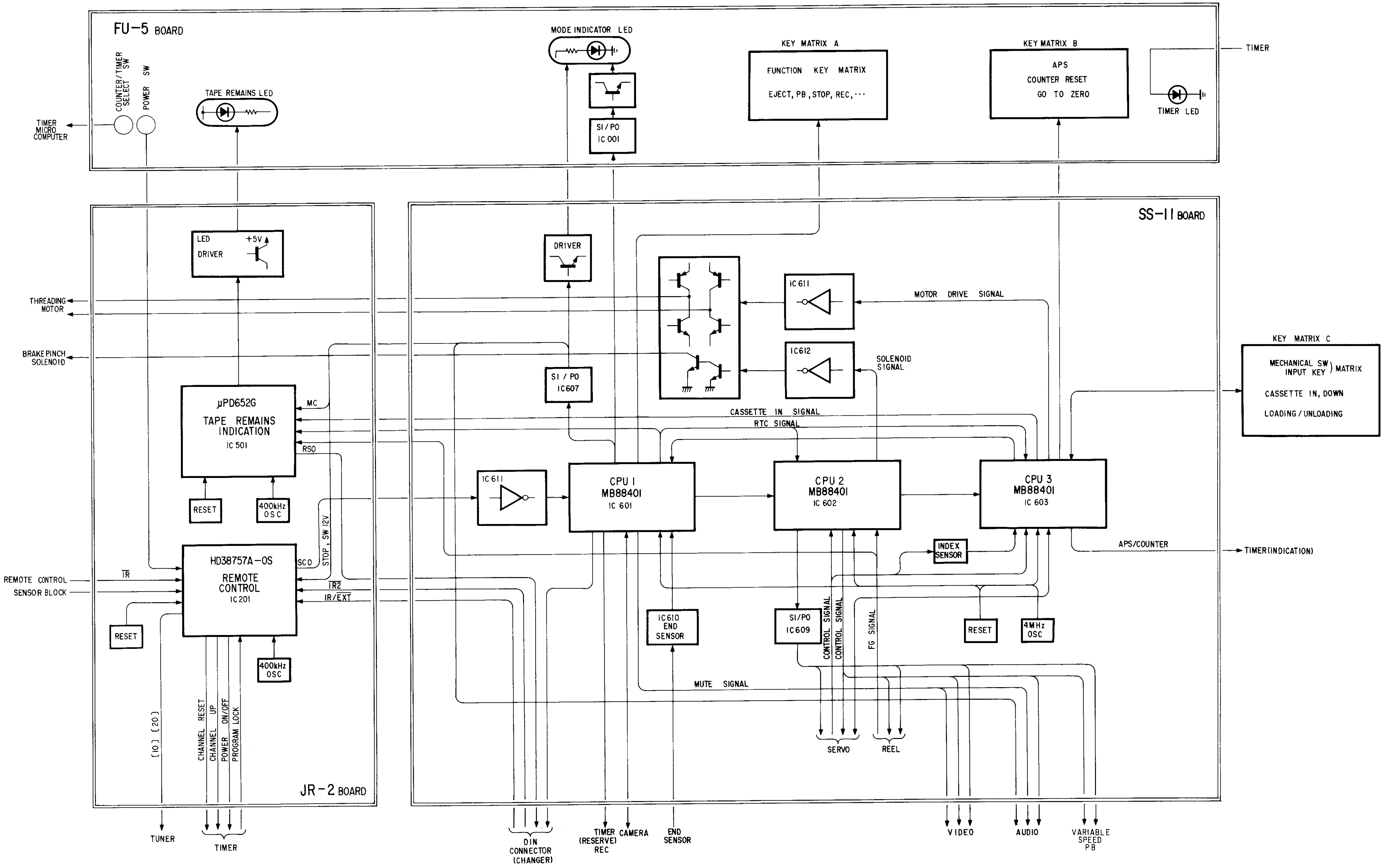

SS–11 BOARD
TIMER
REC R
CAMERA SEL
CAMERA PA
SCO
KEY MT
TAPE E
TAPE END
19
16
18
23
400Hz CONSTANT
3.5msec
ONLY IN TRANSMITTING
100msec
RESET
5V
VCC (5V)
POWER ON
RESET
CLOCK 4MHz
TP604
5Vp–p
4MHz
PIN No.
INDEX CTL ⑤
INDEX SENS ⑥
CAP LOCK ⑦
COUNTER DISP ⑧
KEY MTX ⑫ – ⑮
IN
INDEX CTL
5
R8
24
SO
1
R4
RQST 3
CPU–3
IC 603
EX
RESET
TC
SC/TO
SI
IRQ
OUT
PIN No.
INDEX WRITE ③
INDEX ERASE ④
COUNTER UP ⑩
⑪
TAPE SPEED A ㉕
TAPE SPEED B ㉖
CASSETTE IN ㉗
COUNTER RESET ㉘
APS A ㉙
APS B ㉚
APS C ㉛
APS D ㉜
KEY MTX ㉝ – ㉟
TAPE LOAD ㊲
TAPE UNLOAD ㊳
CASSTTE LOAD ㊴
CASSTTE UNLOAD ㊵
25Hz


CAMERA
O REC REVIEW
O CAMERA PAUSE
O TALLY
TAPE END SENSOR
O T END
O S END
REEL
O SLACK
O S. FG
O T. FG
O BRK DOWN
O T LOAD
O T END
O R. FF
O R. REW
O T LOCK
O REEL COMAND A
O REEL COMAND B
O REEL COMAND C
O S REEL
O T REEL
O TR CONT
O SR CONT
O PB + DUB
I
TE CONTROL INPUT PROCESS
TION KEY INPUT
RATION OF RTC
BUS CONTROL
RA
NSION PORT OUTPUT
R INTERFACE
SIGNAL OUTPUT
SS-II
IC 601
SERVO
O REC PAUSE
O DRUM STOP
O CAP STOP
O CAP FWD
O CAP ROT
O DRUM ROT
O PG
O VD/CTL IND/CTL
O VD/INT
O CUE/REVIEW
O x 2
O TAPE SPEED A
O TAPE SPEED B
O IND ERASE
O IND WRITE
O PB + DUB
O CAP LOCK
CPU 2
O ELECTRICAL CONTROL
(EACH MOTOR)
O MECHANICAL CONTROL
(BRAKE SOLENOID)
(PINCH SOLENOID)
O EXPANSION PORT OUTPUT
SS-II
IC 602
VD/CTL
VIDEO
O JOG
O OVER REC
O PB + DUB
O V MUTE
O REC PAUSE
SOLENOID
O PINCH
O BRAKE
EXPANSION
PORT
IC 609
AUDIO
O BIAS CONTROL
O DUB
O AUDIO PB
O A MUTE
O C MUTE

SYSTEM CONTROL BLOCK DIAGRAM (2)


SS-II BOARD
PIN No.
TIMER REC ①
REC REV ②
CAMERA SELECT ③
CAMERA PAUSE ④
SCO ⑤
KEY MTX ⑫ - ⑮
TAPE END ㊵
IN
OUT
PIN No.
REC READY ⑨
KEY MTX ㉕ - ㉘
VIDEO MUTE ㉝
CAMERA MUTE ㉞
AUDIO MUTE ㉟
TALLY ㊱
TAPE END
19 IRQ
16 EX
18 RESET
23 SI
CPU-1
IC 601
04 29 EX DATA-1
05 30 EX CLK-1
06 31 CSB
07 32 CSC
SO 24
R9 6
SC/TO 22
R13 10
RTC
RQST
400Hz CONSTANT
3.5msec
ONLY IN TRANSMITTING
100msec
RESET 5V
VCC (5V) 5V
POWER ON
RESET
CLOCK 4MHz
TP604
5Vp-p
4MHz
1msec
ONLY IN TRANSMITTING
RQST 3
RQST 2
15 STB
7 CLK
16 DATA
EXPANSION-C
IC 607
RESET 17
FU-5 BOARD
20 DATA
7 CLK
19 STB
EXPANSION-B
IC 001
RESET 21
OUT
PIN No.
EJECT ①
PB ②
X2 ③
RECORD ④
REVERSE ⑤
STILL ⑥
FOWERD ⑫
FRAME ⑬
1/10 ⑭
1/5 ⑮
X1 ⑯
PIN No.
INDEX CTL ⑤
INDEX SENS ⑥
CAP LOCK ⑦
COUNTER DISP ⑧
KEY MTX ⑫ - ⑮
IN
INDEX CTL
5 R8
24 SO
1 R4
CPU-3
IC 603
EX 16
RESET 18
TC 20
SC/TO 22
SI 23
IRQ 19
OUT
DATA-23
40 R3
23 SI
CPU-2
IC 602
16 EX
18 RESET
20 TC
22 SC/TO
24 SO
19 IRQ
R0 37
R1 38
R2 39
DATA-2
CLK-2
EX 16
EX 7
15 CSA
DATA CLK STB
17 RESET
EXPANSION-A
IC 609
25Hz
VD/CTL
IN
OUT
OUT
PIN No.
INDEX WRITE ③
INDEX ERASE ④
COUNTER UP ⑩
⑪
TAPE SPEED A ㉕
TAPE SPEED B ㉖
CASSETTE IN ㉗
COUNTER RESET ㉘
APS A ㉙
APS B ㉚
APS C ㉛
APS D ㉜
KEY MTX ㉝ - ㉟
TAPE LOAD ㊲
TAPE UNLOAD ㊳
CASSTTE LOAD ㊴
CASSTTE UNLOAD ㊵
PIN No.
T.FG ⑦
S.FG ⑧
SLACK ⑫
CAP LOT ⑬
DRUM LOT ⑭
PIN No.
REC PAUSE ①
CAP FWD ②
STEP ③
TOP/END ④
⑨
T REEL CONT ⑩
S REEL CONT ⑪
T・REEL ㉕
S・REEL ㉖
CAP STOP ㉗
DRUM STOP ㉘
BRAKE ON ㉙
BRAK OFF ㉚
PINCH ON ㉛
PINCH OFF ㉜
REEL COMMAND A ㉝
REEL COMMAND B ㉞
REEL COMMAND C ㉟
BRAKE DOWN ㊱
PIN No.
SLOW ①
CUE/REV ②
JOG ③
VD INT ④
OVER REC ⑤
T LOCK ⑥
REEL F.F ⑪
REEL REW ⑫
X2 ⑬

SYSTEM CONTROL BLOCK DIAGRAM (3)


FU-5 BOARD
COUNTER/TIMER SELECT SW
POWER SW
TIMER MICRO COMPUTER
TAPE REMAINS LED
MODE INDICATOR LED
SI/PO
IC 001
KEY MATRIX A
FUNCTION KEY MATRIX
EJECT, PB, STOP, REC, ···
KEY MATRIX B
APS
COUNTER RESET
GO TO ZERO
TIMER
TIMER LED
LED DRIVER
+5V
DRIVER
SS-11 BOARD
THREADING MOTOR
BRAKE PINCH SOLENOID
IC 611
MOTOR DRIVE SIGNAL
IC612
SOLENOID SIGNAL
KEY MATRIX C
MECHANICAL SW
INPUT KEY
MATRIX
CASSETTE IN, DOWN
LOADING / UNLOADING
μPD652G
TAPE REMAINS INDICATION
IC 501
MC
RSO
SI / PO
IC607
CASSETTE IN SIGNAL
RTC SIGNAL
RESET
400kHz OSC
IC 611
CPU 1
MB88401
IC 601
CPU 2
MB88401
IC 602
CPU 3
MB88401
IC 603
STOP, SW 12V
SCO
HD38757A-0S
REMOTE CONTROL
IC 201
REMOTE CONTROL
SENSOR BLOCK
IR
IR2
IR/EXT
RESET
400kHz OSC
INDEX SENSOR
APS/COUNTER
TIMER (INDICATION)
IC610
END SENSOR
SI/PO
IC609
CONTROL SIGNAL
CONTROL SIGNAL
FG SIGNAL
RESET
4MHz OSC
MUTE SIGNAL
SERVO
REEL
[10] [20]
CHANNEL RESET
CHANNEL UP
POWER ON/OFF
PROGRAM LOCK
JR-2 BOARD
TUNER
TIMER
DIN CONNECTOR (CHANGER)
TIMER (RESERVE) REC
CAMERA
END SENSOR
VIDEO
AUDIO
VARIABLE SPEED PB

SYSTEM CONTROL CIRCUIT AND SERVO CIRCUIT INTERFACE

MODE		STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
SIGNAL *1	I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
INDEX CTL	I	—	—	—	—	CTL	CTL	CTL	CTL	CTL	CTL	—	VD	CTL	—	CTL	CTL	CTL	—	CTL	IC603 ⑤ (R8)
VD/CTL	I	—	—	—	—	CTL	CTL	CTL	CTL	CTL	CTL	—	VD	CTL	—	CTL	CTL	CTL	—	CTL	IC602 ⑳ ($\overline{TC}$) IC603 ⑳ ($\overline{TC}$)
$\overline{\text{DRM ROT}}$ *2	I	H	H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	IC602 ⑭ (K2)
CAP ROT *2	I	L	L	L	L	L	L	H	H	H	H	L	H	—	L	H	H	H	L	*3	IC602 ⑬ (K1)
$\overline{\text{CAP LOCK}}$	I	H	H	H	H	H	H	—	—	L *4	L *4	H	L *4	—	H	L *4	L *4	L *4	H	±1 L *4 Other H	IC611 ⑦
RF SW PLS *5	I	disappear	disappear	disappear	disappear	appear	appear	appear	appear	appear	appear	appear	appear	appear	appear	appear	appear	appear	appear	appear	IC602 ⑥ (R6)
PB+DUB	O	L	L	L	L	L	L	H	H	H	H	H	L	L	L	H	H	H	H	H	IC607 ⑫
DRM STP	O	H	H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	IC602 ㉘ ($\overline{O}$3)
CAP STP	O	H	H	H	H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L	IC602 ㉗ ($\overline{O}$2)
VD INT	O	L	L	L	L	L	L	H	H	H	H	H	L	L	L	L	L	H	H	H	IC609 ④
REC·$\overline{P}$ *6	O	L	L	L	L	L	L	L	L	L	L	L	H *7	L	L	L	L	L	L	L	Q630 CORRECTOR
CUE+REV	O	L	L	L	L	L	L	H	H	L	L	L	L	L	L	L	L	L	L	L	IC609 ②
T SPD(A)	O	—	—	—	—	—	—	L	L	L	H	L	L	L	L	L	L	L	L	L	IC603 ㉕ ($\overline{O}$0)
T SPD(B)	O	—	—	—	—	—	—	L	H	H	L	H	H	H	H	H	H	H	H	H	IC603 ㉖ ($\overline{O}$1)

*1 signals correspond to the IC input/output pins inside the system control block.(refer to **COMMENT.**)

*2 approx. 1sec after the drum or capstan starts rotating, $\overline{\text{DRM ROT}}$ = "L" or CAP ROT ="H"

*3 ±1:"H" ±Slow : Indefinite STILL:"L"

*4 "H" until the capstan servo is locked, then"L" after locked.

*5 25Hz, 50 % duty ratio pulse (PG)

*6 latched-output by flip-flop with RF SW PULSES (PG) as clock pulses.

*7 "L" is held during the first 12 CTLs in REC/PAUSE mode, then changing to"H"in REC mode.

MODE		STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
SIGNAL *1	I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
CAP FWD	O	H *2	H *2	H *2	H *2	H	L	H	L	H	H	H	H	L	L	L	H	H	H	*3	IC602 ② (R5)
IND WRT	O	L	L	L	L	L	L	L	L	L *4	L	L	L *4 *5	L	L	L	L	L	L	L	IC612 ②
IND ERS	O	L	L	L	L	L	L	L	L	L *6	L	L	L	L	L	L	L	L	L	L	IC612 ④
X 2	O	L	L	L	L	L	L	L	L	L	H	L	L	L	L	L	L	L	L	L	IC609 ⑬
USW 12V (E)	O																				
USW 12V (M)	O																				
SWD 12V	O																				
GND (12V)	O																				
9 V	O																				
5 V	O																				
GND (5V)	O																				

*1 signals correspond to the input/output pins of CPU/IC inside the system control block, (refer to COMMENT.)

*2 "Dont care" signal in servo section.

*3 "H" when the tape runs forward, "L" when the tape runs in reverse, and holds the previous level in STILL mode.

*4 "H" for approx 9sec(160mm) when the APS REC key is pressed in PB/REC mode. (Manual Index Write)

*5 "H" for approx 9sec(160mm) in STOP→REC mode, and STOP→REC/PAUSE→REC mode. (Auto Index Write)

*6 "H" for 16sec(240mm) in Index Erase mode.

SYSTEM CONTROL CIRCUIT AND REEL CIRCUIT INTERFACE

MODE		STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
SIGNAL *1	I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
T FG *2	I																				IC602 ⑦ (R10)
S FG *2	I																				IC602 ⑧ (R11)
$\overline{\text{SLACK}}$	I					H *3	H *3														IC602 ⑫ (K0)
R FF	0	L	L	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L	IC609 ⑪
R REW	0	L	L	L	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	IC609 ⑫
R COM A	0	— *4	L	— *4	L	L	H	L	H	L	L	L	L	H	H	H	L	L	-	L *5	IC602 ㉝ (P0)
R COM B	0	—	H	—	H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L	IC602 ㉞ (P1)
R COM C	0	—	H	—	H	L	L	H	H	L	L	L	L	L	L	L	L	L	L	L	IC602 ㉟ (P2)
$\overline{\text{T REEL}}$	0	H	L	H	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	IC602 ㉕ (Ō0)
$\overline{\text{S REEL}}$	0	H	L	H	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L	IC602 ㉖ (Ō1)
BRK DOWN *6	0	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	IC602 ㊱ (P3)
T LOCK	0	L	H *9	L	H *9	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	IC609 ⑥
T LOAD	0	L	H *7	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	IC611 ②
$\overline{\text{T END}}$ *8	0																				IC605 ②

*1 signals corrspond to the IC input/output pins inside the system control block.(refer to COMMENT.)

*2 the number of pulses is equal to the product of 60 rpm times the number of revolutions of the supply or take-up reel.

*3 "L" when the reel revolution is abnormal (approx. 100 msec pulses).

*4 "Don't care" signal in reel section.

*5 "H" when the tape runs in the reverse direction.

*6 electromagnetic brake change-over signal· Used only in R COM=(7)H.

*7 "H" only during tape loaing.

*8 "L" at tape top/end.

*9 "H" only during tape loading/unloading.

MODE		STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
SIGNAL *1	I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
CAP FWD	0	H *2	H *2	H *2	H *2	H	L	H	L	H	H	H	H	L	L	L	H	H	H	*3	CN625 ③
STEP *4	0	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	CN625 ④
SLOW	0	L	L	L	L	L	L	L	L	L	L	H	L	L	H	L	L	L	H	±1 L Other H	CN625 ⑤
JOG	0	L	L	L	L	L	L	H	H	L	H	H	L	L	L	H	L	L	H	+1 L Other H	CN625 ⑥
VD INT	0	L	L	L	L	L	L	H	H	H	H	H	L	L	L	L	L	H	H	H	CN625 ⑦
RVN *5	0																				CN625 ⑧
5V	0																				CN625 ②
GND (5V)	0																				CN625 ①

*1 signals correspond to connector pins. (refer to COMMENT)

*2 "don't care" signal in servo section.

*3 "H" when the tape runs forward, "L" when the tape run in reverse, and holds the previous level in STILL mode.

*4 slow-speed signal in slow PB mode.

*5 head change control signal.

SYSTEM CONTROL CIRCUIT AND AUDIO CIRCUIT INTERFACE

MODE SIGNAL *1		STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
	I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
REC·$\overline{P}$ *2	0	L	L	L	L	L	L	L	L	L	L	L	H*3	L	L	L	L	L	L	L	CN614 ①
$\overline{\text{OVER}\cdot\text{REC}}$	0	H	H	H	H	H	H	H	H	H	H	H	H*4	H	H	H	H	H	H	H	CN614 ②
PB + DUB	0	L	L	L	L	L	L	H	H	H	H	H	L	L	L	H	H	H	H	H	CN614 ③
V MUTE *5	0	L	L	L	L	L	L	L	L	L*6	L*6	L	L	L	L	L	L	L*6	L	L	CN614 ④
JOG	0	L	L	L	L	L	L	H	H	L	H	H	L	L	L	H	L	L	H	H*7	CN614 ⑤

*1 signals correspond to connector pins. (refer to COMMENT)

*2 latched – output by flip – flop with RF SW pulses (PG) as clock pulses.

*3 "L" is held during the first 12 CTLs in REC / PAUSE mode, then changing to "H" in REC mode.

*4 "L" during overwrite – compensation. (only in STILL → REC/PAUSE → REC mode)

*5 "H" when no – CTL period lasts 0.5 sec during PB and x2, changing to "L" when the CTL is continuously detected for more than 0.5 sec.

*6 "H" for 3 sec in STOP → PB or DUB mode, then changes to "L".

*7 "L" at + I.

SYSTEM CONTROL CIRCUIT AND VIDEO CIRCUIT INTERFACE

<table>
<tr><th colspan="2">MODE</th><th colspan="4">STOP</th><th rowspan="3">FF</th><th rowspan="3">REW</th><th rowspan="3">CUE</th><th rowspan="3">REVERSE</th><th colspan="2">PB</th><th rowspan="3">PB PAUSE</th><th rowspan="3">REC</th><th colspan="4">REC PAUSE</th><th colspan="2">DUB</th><th colspan="2">DUB PAUSE</th><th rowspan="3">VIDEOLA</th><th rowspan="3">COMMENT</th></tr>
<tr><th rowspan="2">SIGNAL *1</th><th rowspan="2">I/O</th><th rowspan="2">UN READY</th><th rowspan="2">LOAD</th><th rowspan="2">READY</th><th rowspan="2">UN LOAD</th><th rowspan="2">NORMAL</th><th rowspan="2">x2</th><th rowspan="2">IN PAUSE</th><th rowspan="2">NORMAL</th><th rowspan="2">REC REVERSE</th><th rowspan="2">REC PB</th><th colspan="2">L+R</th><th colspan="2">L + R</th></tr>
<tr><th>L</th><th>R</th><th>L</th><th>R</th></tr>
<tr><td>A · PB</td><td>0</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td><td>H</td><td>H</td><td>H</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td><td>H</td><td colspan="2">L</td><td colspan="2">L</td><td>H</td><td>CN613 ②</td></tr>
<tr><td>REC · $\overline{P}$ *2</td><td>0</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H*3</td><td>L</td><td>L</td><td>L</td><td>L</td><td colspan="2">L</td><td colspan="2">L</td><td>L</td><td>CN613 ③</td></tr>
<tr><td>BIAS CONT</td><td>0</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H*3</td><td>L</td><td>L</td><td>L</td><td>L</td><td colspan="2">H</td><td colspan="2">L</td><td>L</td><td>CN613 ④</td></tr>
<tr><td rowspan="2">A MUTE *4</td><td rowspan="2">0</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">H</td><td rowspan="2">H</td><td rowspan="2">L*5</td><td rowspan="2">H</td><td rowspan="2">H</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">H</td><td rowspan="2">L*5</td><td colspan="2">L</td><td colspan="2">L</td><td rowspan="2">H</td><td rowspan="2">CN613 ⑤</td></tr>
<tr><td>—</td><td>L*5</td><td>—</td><td>H</td></tr>
<tr><td>C MUTE *6</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2"></td><td colspan="2"></td><td></td><td>CN613 ⑥</td></tr>
<tr><td rowspan="2">DUB L</td><td rowspan="2">0</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td colspan="2">H</td><td colspan="2">H</td><td rowspan="2"></td><td rowspan="2">CN613 ⑦</td></tr>
<tr><td>—</td><td>L</td><td>—</td><td>L</td></tr>
<tr><td rowspan="2">DUB R</td><td rowspan="2">0</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td rowspan="2">L</td><td colspan="2">H</td><td colspan="2">H</td><td rowspan="2"></td><td rowspan="2">CN613 ⑧</td></tr>
<tr><td>—</td><td>H</td><td>—</td><td>H</td></tr>
<tr><td>CAM SEL *7</td><td>I</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2"></td><td colspan="2"></td><td></td><td>CN613 ①</td></tr>
</table>

*1 signals correspond to connector pins. (refer to COMMENT)

*2 latched – output by flip – flop with RF SW pulses (PG) as clock pulses.

*3 "L" is held during the first 12 CTLs in REC/PAUSE mode, then changing to "H" is REC mode.

*4 "H" when no – CTL period lasts 0.5 sec changing to "L" when the CTL is continuously detected for more than 0.5 sec.

*5 "H" for 3 sec in STOP, FF or REW → PB, x2 or STOP → DUB mode, for 0.5 sec in the other modes, and then changes to "L".

*6 generates a mute pulse when changing mode. (this signal may disappear later)

*7 "H" when the input select SW is in camera mode.

SYSTEM CONTROL CIRCUIT AND VARIABLE SPEED PB CIRCUIT INTERFACE

MODE SIGNAL *1		STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
	I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
PB+ DUB	0	L	L	L	L	L	L	H	H	H	H	H	L	L	L	H	H	H	H	H	IC607 ⑫
$\overline{\text{TR CONT}}$	0	H	H *2	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	IC602 ⑩ (R13)
$\overline{\text{SR CONT}}$	0	H	H *3	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	IC602 ⑪ (R14)
UNSW12V(M)	0																				
SWD12V	0																				
GND(12V)	0																				
9V	0																				
5V	0																				
GND(5V)	0																				

*1 signals correspond to the IC input/output pins inside the system control block.(refer to COMMENT)

*2 "L" for 600msec when the tape is being loaded.

*3 "L" for 100msec when the tape is being loaded.

SYSTEM CONTROL CIRCUIT AND TIMER BLOCK INTERFACE

MODE SIGNAL *1		STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
	I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
REC $\overline{\text{PAUSE}}$ *2	0	L	L	L	L	L	L	L	L	L	L	L	H *3	L	L	L	L	L	L	L	CN620 ①
APS D *4	0																				CN620 ②
APS C	0																				CN620 ③
APS B	0																				CN620 ④
APS A	0																				CN620 ⑤
$\overline{\text{COUNTER RST}}$ *5	0																				CN627 ⑤
CNT UP *6	0																				CN627 ④
$\overline{\text{CNT PLS}}$ *7	0																				CN627 ③
$\overline{\text{REC READY}}$ *9	0																				CN627 ①
$\overline{\text{TIMER REC}}$ *8	I																				CN627 ②
$\overline{\text{CNT DISP}}$ *10	I																				CN627 ⑥
$\overline{\text{KMOA 2}}$	0																				CN618 ①
$\overline{\text{KMIA 1}}$	I																				CN618 ②
$\overline{\text{KMIA 0}}$	I																				CN618 ③

*1 signals correspond to connector pins.(refer to COMMENT)

*2 latched - output by flip-flop with RF SW pulses(PG) as clock pulses.

*3 "L" is held during the first 12 CTLs in REC / PAUSE mode, then changing to "H" in REC mode.

*4 binary signals for controlling "APS" and 7- segment display.

*5 counter reset pulse signal. the pulse with (low - level) is approx 2.5msec. output when power is turned on and the CNT RESET key is pressed.

*6 counter control signal
high level (+) forward
low level (−) backward

*7 counter clock pulse (period: 1sec) 1 pulse is output for 25 CTLs.

*8 "L" is timer REC mode.

*9 "L" in timer REC READY mode.

*10 "L" in counter display mode.

*11 signals correspond to the input / output pins of CPU/IC.

SYSTEM CONTROL CIRCUIT AND CAMERA CONNECTOR INTERFACE

MODE SIGNAL *1		STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
	I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
$\overline{\text{REC · REVIEW}}$ *2	I																				CN601 ④
$\overline{\text{CAM · PAUSE}}$ *3	I																				CN601 ②
TALLY	0	L	L	L	L	L	L	H	H	H	L	L	H	L	L	L	H	H	L	L	CN601 ③
CAM 12V	0																				CN601 ①
CAM GND	0																				CN601 ⑤

* 1 signals correspond to connector pins.(refer to COMMENT)
* 2 "L" when the REC REVIEW key of the camera is pressed.
* 3 "L" when the PAUSE key of the camera is pressed.

SYSTEM CONTROL CIRCUIT AND REMOTE CONTROL CIRCUIT INTERFACE

MODE SIGNAL *1		STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
	I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
SCO *3	I																				CN602 ①
STOP	0	H	H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	CN602 ④
IR / $\overline{\text{EXT}}$ *4	0																				CN602 ② from CHANGER to REMOCON
$\overline{\text{IR} - 2}$ *5	0																				CN602 ③ from CHANGER to REMMCON
UNS 12V (E)	0																				CN602 ⑥
SWD 12V	0																				CN602 ⑤
GND (12V)	0																				CN602 ⑦

* 1 signals correspond to the input / output pins of CPU / IC inside the system control block. (refer to COMMENT)
* 3 serial data corresponding to remote control.
(remote control microcomputer → system control microcomputer)
* 4 IR and IR − 2 select signals for the remote control microcomputer.
high: IR select low: IR − 2 select
(remote control interface → remote control microcomputer)
* 5 remote control data for controlling the remote control microcomputer.
(remote control interface → remote control microcomputer)

SYSTEM CONTROL CIRCUIT AND TAPE REMAINS CIRCUIT INTERFACE

MODE SIGNAL *1		STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
	I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
$\overline{\mathrm{RTC}}$ *2	0																				CN623 ⑤
S FG *3	0																				CN623 ①
T FG *3	0																				CN623 ②
CAP LOCK	0	L	L	L	L	L	L	—	—	H*4	H*4	L	H*4	—	L	H	H*4	H*4	L	±1 H*4 Other L	CN623 ⑥
C IN	0	L	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	CN623 ⑦
FF	0	L	L	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L	CN623 ⑩
REW	0	L	L	L	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	CN623 ⑨
PB + DUB	0	L	L	L	L	L	L	H	H	H	H	H	L	L	L	H	H	H	H	H	CN623 ③
REC · $\overline{\mathrm{P}}$ *7	0	L	L	L	L	L	L	L	L	L	L	L	H*5	L	L	L	L	L	L	L	CN623 ④
PAUSE	0	L	L	L	L	L	L	L	L	L	L	H	L	H	H	H	H	L	H	L	CN623 ⑧
RSO *6	I																				CN602 ⑧

*1 signals correspond to the input/output pins of CPU/IC inside the system control block. (refer to COMMENT)

*2 real time clock with a cycle of 2.5msec.

*3 the number of pulses is equal to the product of 60rpm times the number of reel revolutions.

*4 "L" is held until the capstan servo is locked.

*5 "L" is held during the first 12 CTLs in REC/PAUSE mode, then changing to "H" in REC mode.

*6 serial data for residual display. (residual microcomputer → interface)

*7 latched - output by flip-flop with RF SW pulses(PG) as clock pulses.

SYSTEM CONTROL CIRCUIT AND CHANGER INTERFACE

MODE SIGNAL *1		STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
	I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
IR/$\overline{\mathrm{EXT}}$ *2	I																				CN628 ④ from CHANGER to REMOCON
$\overline{\mathrm{IR-2}}$ *3	I																				CN628 ③ from CHANGER to REMOCON
REC·READY *4	0																				CN628 ②
$\overline{\mathrm{S\ DATA}}$ *5	0																				CN628 ⑧
$\overline{\mathrm{S\ CLOCK}}$ *6	0																				CN628 ⑦
RSO *7	0																				CN628 ⑤
12V	0																				CN628 ①
GND (12V)	0																				CN628 ⑥

*1 signals correspond to connector pins. (refer to COMMENT)

*2 IR and IR−2 select signals for the remote control microcomputer.
high: IR select low: IR−2 select
(interface → remote control microcomputer)

*3 remote control data for controlling the remote control microcomputer.
(interface → remote control microcomputer)

*4 "H" in timer REC READY mode.

*5 extension port serial data.

*6 extension port clock.

*7 serial data for residual display. (residual microcomputer → interface)

SYSTEM CONTROL CIRCUIT AND FU-5 BOARD INTERFACE

MODE SIGNAL	*1		STOP				FF	REW	CUE	REVERSE	PB			REC	REC PAUSE				DUB L+R		DUB · P L+R		VIDEOLA	COMMENT
		I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2	PB PAUSE		IN PAUSE	NORMAL	REC REVERSE	REC PB	L	R	L	R		
EX DATA 1	*2	0																						CN612 ④
EX CLK 1		0																						CN612 ③
CSB		0																						CN612 ②
$\overline{\text{RESET}}$		0																						CN612 ①
$\overline{\text{REW}}$		0	H	H	H	H	H	L	H	H	H	H	H	H	H	H	H	H	H		H		H	CN622 ⑥
$\overline{\text{FF}}$		0	H	H	H	H	L	H	H	H	H	H	H	H	H	H	H	H	H		H		H	CN622 ⑤
$\overline{\text{PAUSE}}$		0	H	H	H	H	H	H	H	H	H	H	L	H	L	L	L	L	H		L		H	CN622 ④
DUB L		0	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	H —	L	H —	L	L	CN622 ②
DUB R		0	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	H —	H	H —	H	L	CN622 ③
$\overline{\text{KMOA 4}}$	*3	0																						CN626 ⑤
$\overline{\text{KMOA 3}}$		0																						CN626 ⑥
$\overline{\text{KMOA 1}}$		0																						CN626 ⑦
$\overline{\text{KMOA 0}}$		0																						CN626 ⑧

* 1 signals correspond to connector pins.(refer to COMMENT)

* 2 extension port control signals for LED lightening.

* 3 CPU 1 key matrix output signals.

MODE SIGNAL	*1		STOP				FF	REW	CUE	REVERSE	PB			REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
		I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2	PB PAUSE		IN PAUSE	NORMAL	REC REVERSE	REC PB				
$\overline{\text{KMIA 3}}$	*2	I																				CN626 ①
$\overline{\text{KMIA 2}}$		I																				CN626 ②
$\overline{\text{KMIA 1}}$		I																				CN626 ③
$\overline{\text{KMIA 0}}$		I																				CN626 ④
5V		0																				CN622 ①
GND(5V)		0																				CN622 ⑦
$\overline{\text{KMOB 2}}$	*3																					CN624 ①
$\overline{\text{KMOB 1}}$																						CN624 ②
$\overline{\text{KMIB 2}}$	*4																					CN624 ③
$\overline{\text{KMIB 0}}$																						CN624 ④

* 1 signals correspond to connector pins.(refer to COMMENT)

* 2 CPU 1 key matrix input signals.

* 3 CPU 3 key matrix output signals.

* 4 CPU 3 key matrix input signals.

SYSTEM CONTROL CIRCUIT AND SW-11 BOARD INTERFACE

MODE			STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
SIGNAL	*1	I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
$\overline{\text{KMOB 2}}$	*2	O																				CN619 ②
$\overline{\text{KMOB 1}}$		O																				CN619 ③
$\overline{\text{KMIB 1}}$	*3	I																				CN619 ①

* 1 signals correspond to connector pins(refer to COMMENT)

* 2 CPU 3 key matrix output signals

* 3 CPU 3 key matrix input signals

SYSTEM CONTROL CIRCUIT AND END SENSOR INTERFACE

MODE			STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
SIGNAL	*1	I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
$\overline{\text{KMIB 3}}$	*2	I																				CN616 ①
$\overline{\text{KMIB 2}}$		I																				CN616 ②
$\overline{\text{KMIB 1}}$		I																				CN616 ③
$\overline{\text{KMIB 0}}$		I																				CN616 ④
$\overline{\text{KMOB 2}}$	*3	O																				CN616 ⑤
$\overline{\text{KMOB 1}}$		O																				CN616 ⑥
$\overline{\text{KMOB 0}}$		O																				CN616 ⑦
C LOAD (+)		O	L	H^{*4}	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	CN701 ⑩
C LOAD (−)		O	L	L	L	H^{*5}	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	CN701 ⑨
T LOAD (+)		O	L	H^{*6}	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	CN701 ⑧
T LOAD (−)		O	L	L	L	H^{*7}	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	CN701 ⑦
$\overline{\text{BRK ON}}$	*8	O																				CN701 ⑤
$\overline{\text{BRK OFF}}$		O																				CN701 ④
$\overline{\text{PINCH ON}}$		O																				CN701 ③
$\overline{\text{PINCH OFF}}$		O																				CN701 ②
D12V		O																				CN701 ①

* 1 signals correspond to connector pins. (refer to COMMENT)

* 2 CPU 3 key matrix input signals

* 3 CPU 3 key matrix output signals

* 4 when the cassette is being loaded (H: 12V)

* 5 when the cassette is being unloaded (H: 12V)

* 6 when the tape is being loaded (H: 12V)

* 7 when the tape is being unloaded (H: 12V)

* 8 brake/pinch plunger solenoid drive signals. driven by 200 msec pulses.

SYSTEM CONTROL CIRCUIT AND MECHANISM BLOCK INTERFACE

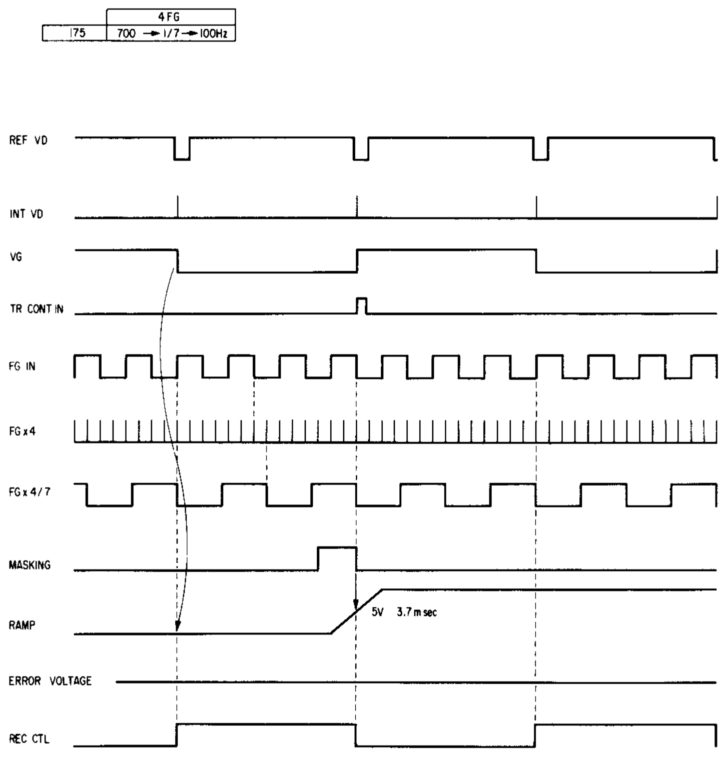
MODE		STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
SIGNAL *1	I/O	UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
T END *2	I																				CN604 ②
S END *3	I																				CN617 ②
9V	O																				CN604 ① CN617 ①
GND (5V)	O																				CN604 ③ CN617 ③

* 1 signals correspond to connector pins.(refer to COMMENT)

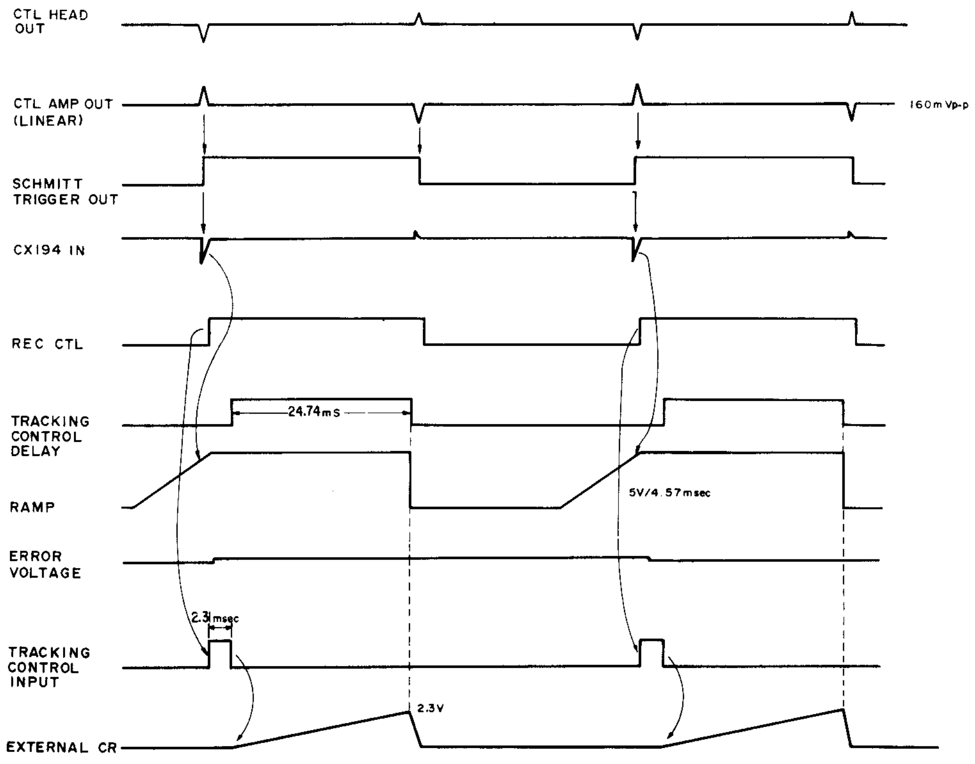
* 2 OSC freq. 600kHz at tape end.

* 3 OSC freq.600kHz at tape top.

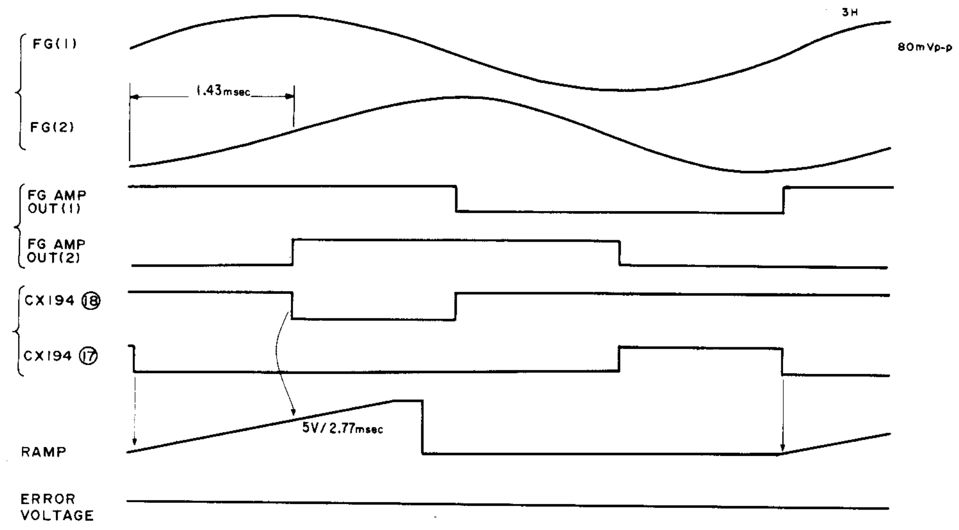
CAPSTAN PHASE SYSTEM TIMING CHART (REC)


4FG
175
700 → 1/7 → 100Hz
REF VD
INT VD
VG
TR CONT IN
FG IN
FG x 4
FG x 4/7
MASKING
RAMP
5V 3.7 msec
ERROR VOLTAGE
REC CTL

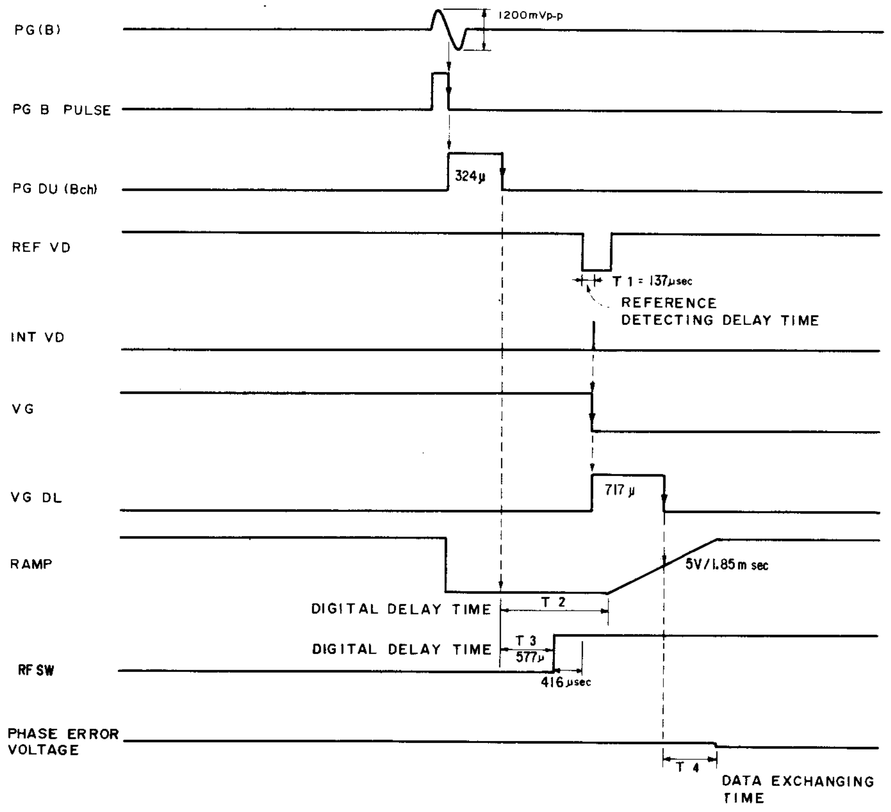
CAPSTAN PHASE SYSTEM TIMING CHART (PB)


CTL HEAD OUT
CTL AMP OUT (LINEAR)
160m Vp-p
SCHMITT TRIGGER OUT
CX194 IN
REC CTL
TRACKING CONTROL DELAY
24.74mS
RAMP
5V/4.57msec
ERROR VOLTAGE
2.3msec
TRACKING CONTROL INPUT
2.3V
EXTERNAL CR

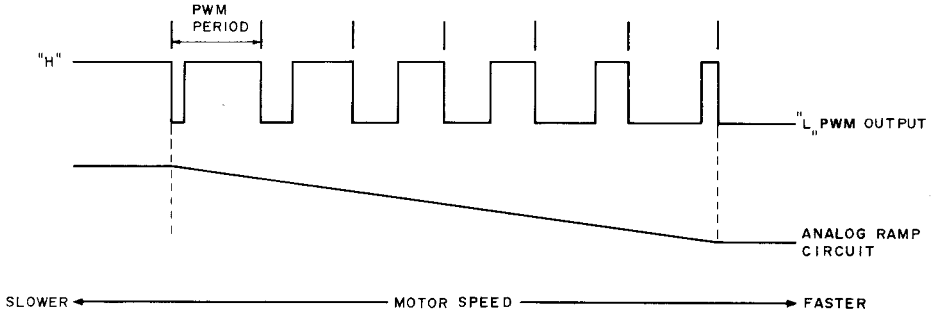
CAPSTAN SPEED SYSTEM TIMING CHART


FG(1)
FG(2)
3H
80mVp-p
1.43msec
FG AMP OUT(1)
FG AMP OUT(2)
CX194 ⑱
CX194 ⑰
5V/2.77msec
RAMP
ERROR VOLTAGE

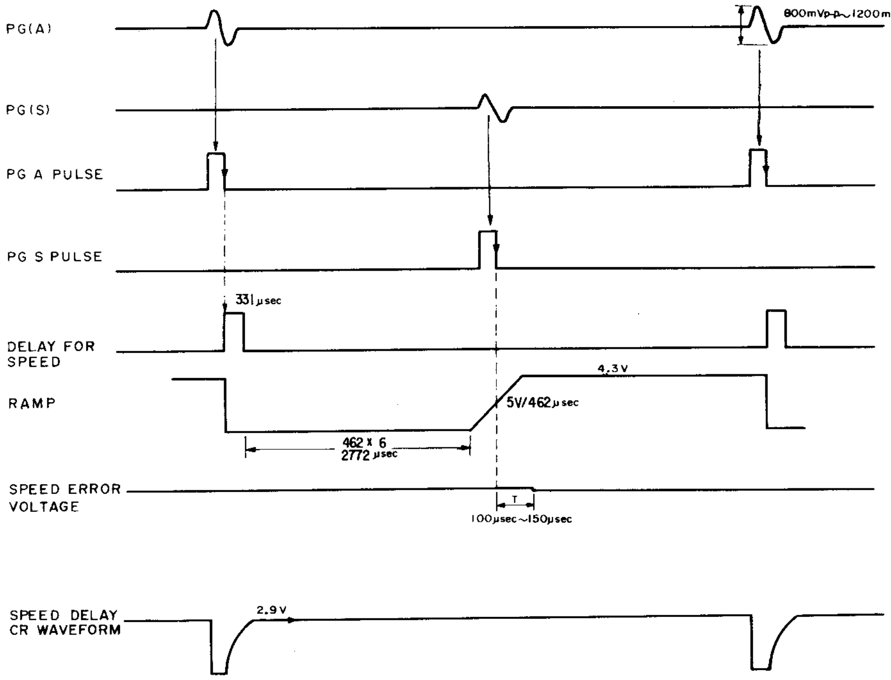
DRUM PHASE SYSTEM TIMING CHART


PG(B)
1200mVp-p
PG B PULSE
PG DU (Bch)
324µ
REF VD
T 1 = 137µsec
REFERENCE DETECTING DELAY TIME
INT VD
VG
VG DL
717µ
RAMP
5V/1.85m sec
DIGITAL DELAY TIME
T 2
DIGITAL DELAY TIME
T 3
577µ
416µsec
RF SW
PHASE ERROR VOLTAGE
T 4
DATA EXCHANGING TIME

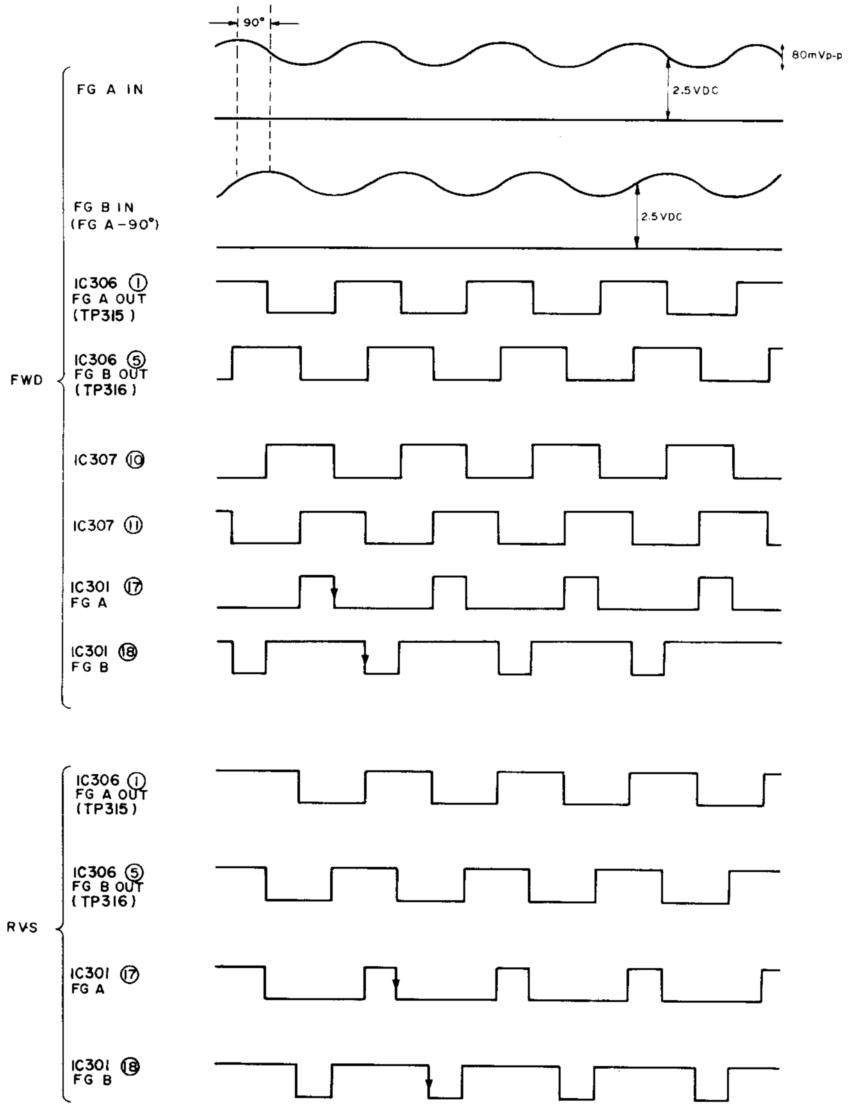
INSTRUMENTATION COUNTER TIMING CHART


PWM
PERIOD
"H"
"L" PWM OUTPUT
ANALOG RAMP
CIRCUIT
SLOWER
MOTOR SPEED
FASTER

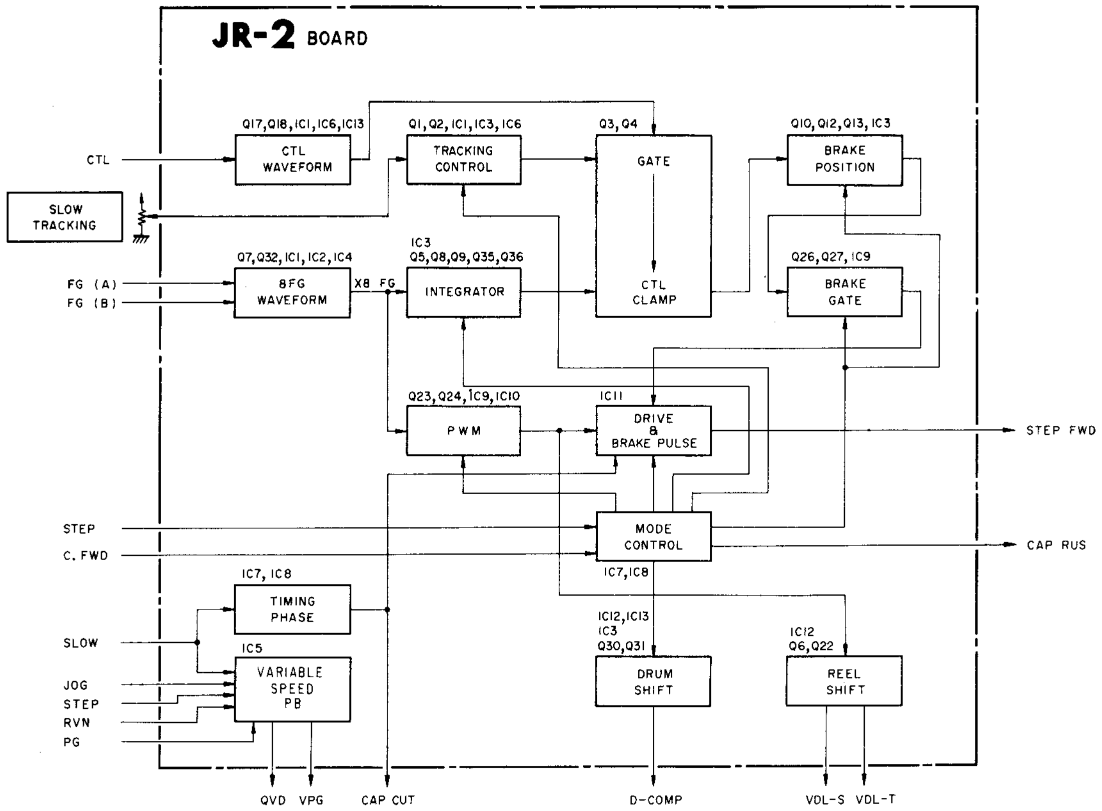
DRUM SPEED SYSTEM TIMING CHART


PG(A)
800mVp-p~1200mVp-p
PG(S)
PG A PULSE
PG S PULSE
331μsec
DELAY FOR
SPEED
RAMP
4.3V
5V/462μsec
462 X 6
2772 μsec
SPEED ERROR
VOLTAGE
T
100μsec~150μsec
SPEED DELAY
CR WAVEFORM
2.9V

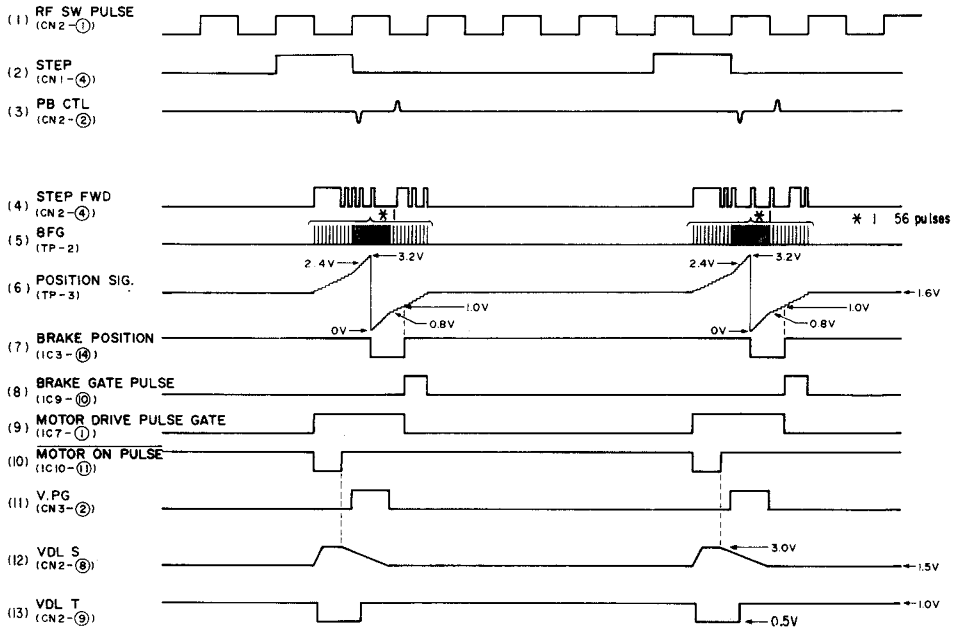
FG CIRCUIT TIMING CHART


90°
80mVp-p
FG A IN
2.5VDC
FG B IN
(FG A-90°)
2.5VDC
FWD
IC306 ①
FG A OUT
(TP315)
IC306 ⑤
FG B OUT
(TP316)
IC307 ⑩
IC307 ⑪
IC301 ⑰
FG A
IC301 ⑱
FG B
RVS
IC306 ①
FG A OUT
(TP315)
IC306 ⑤
FG B OUT
(TP316)
IC301 ⑰
FG A
IC301 ⑱
FG B

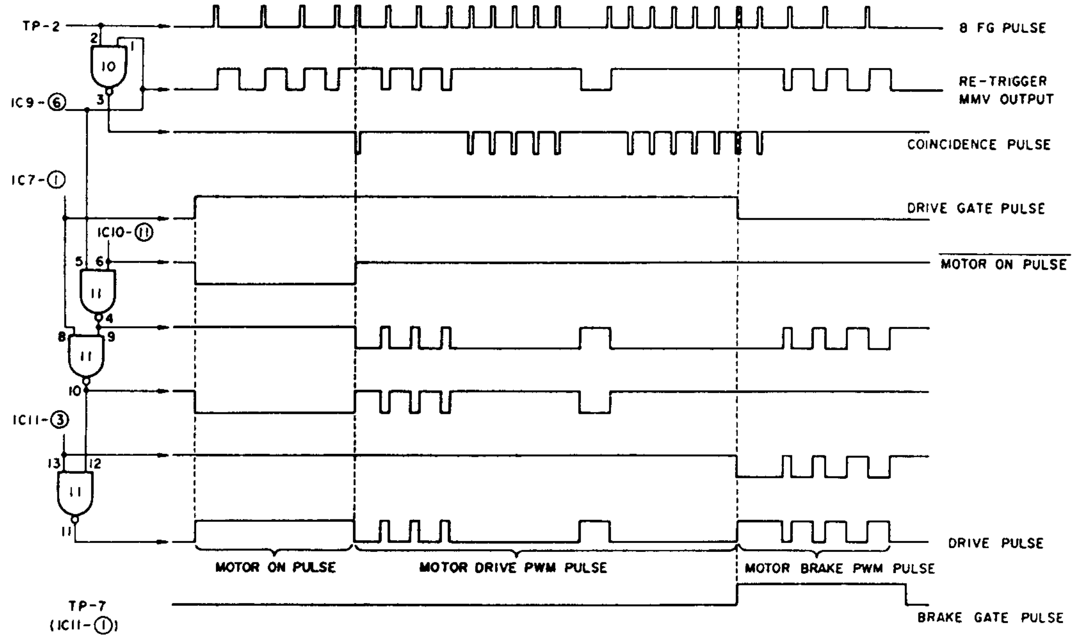
3-3. VARIABLE SPEED PB SERVO BLOCK DIAGRAM


JR-2 BOARD
CTL
SLOW TRACKING
FG (A)
FG (B)
STEP
C. FWD
SLOW
JOG
STEP
RVN
PG
Q17,Q18,IC1,IC6,IC13
CTL WAVEFORM
Q1,Q2,IC1,IC3,IC6
TRACKING CONTROL
Q3,Q4
GATE
CTL CLAMP
Q10,Q12,Q13,IC3
BRAKE POSITION
Q7,Q32,IC1,IC2,IC4
8FG WAVEFORM
X8 FG
IC3
Q5,Q8,Q9,Q35,Q36
INTEGRATOR
Q26,Q27,IC9
BRAKE GATE
Q23,Q24,IC9,IC10
PWM
IC11
DRIVE & BRAKE PULSE
MODE CONTROL
IC7,IC8
IC7, IC8
TIMING PHASE
IC5
VARIABLE SPEED PB
IC12,IC13
IC3
Q30,Q31
DRUM SHIFT
IC12
Q6,Q22
REEL SHIFT
STEP FWD
CAP RUS
QVD
VPG
CAP CUT
D-COMP
VDL-S
VDL-T

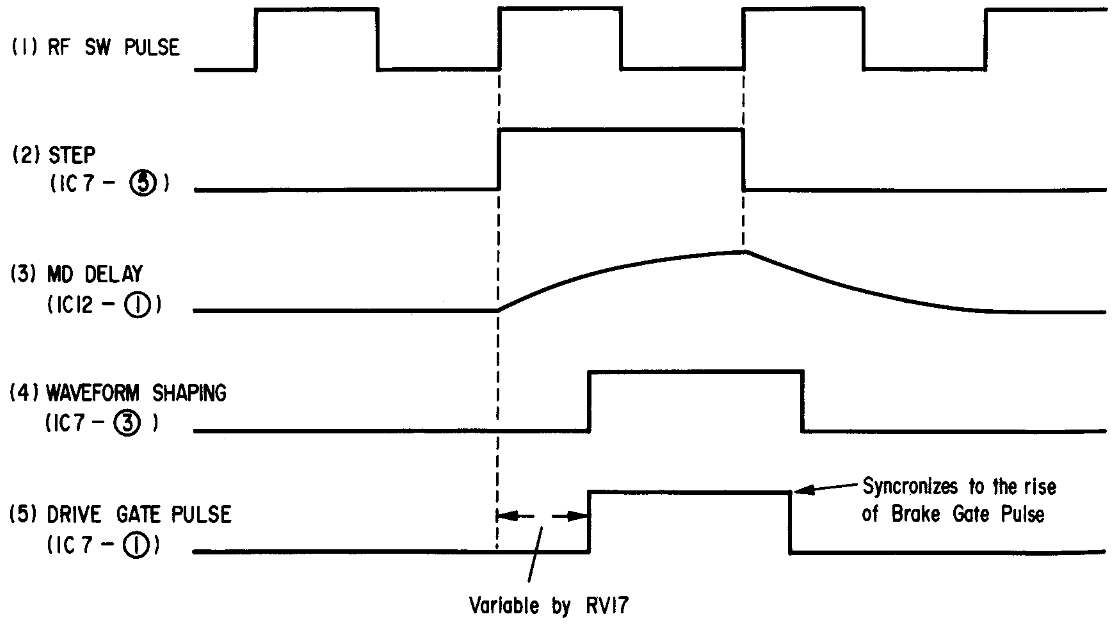
VARIABLE SPEED PB SERVO TIMING CHART (1)


(1) RF SW PULSE (CN2-①)
(2) STEP (CN1-④)
(3) PB CTL (CN2-②)
(4) STEP FWD (CN2-④)
(5) 8FG (TP-2)
(6) POSITION SIG. (TP-3)
(7) BRAKE POSITION (IC3-⑭)
(8) BRAKE GATE PULSE (IC9-⑩)
(9) MOTOR DRIVE PULSE GATE (IC7-①)
(10) MOTOR ON PULSE (IC10-⑪)
(11) V.PG (CN3-②)
(12) VDL S (CN2-⑧)
(13) VDL T (CN2-⑨)
*1
*1 56 pulses
2.4V
3.2V
1.6V
1.0V
0.8V
0V
3.0V
1.5V
1.0V
0.5V

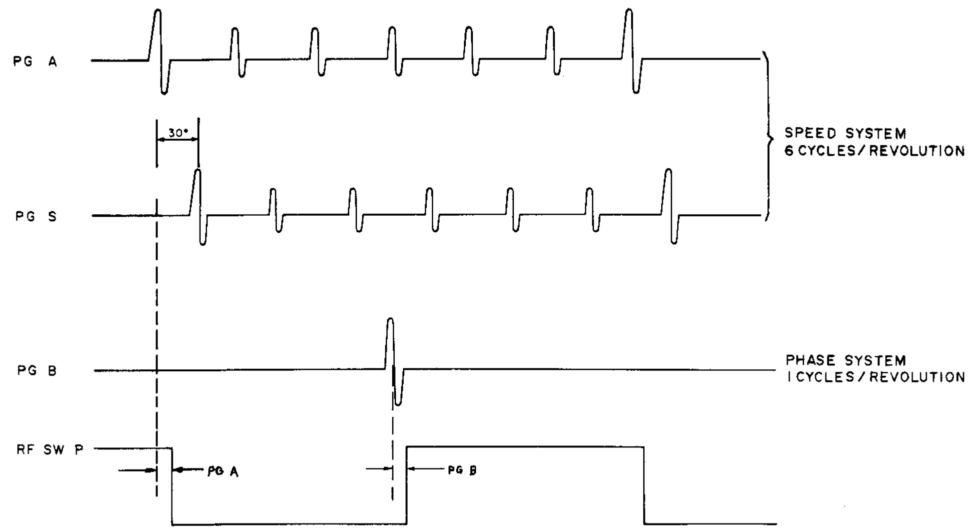
VARIABLE SPEED PB SERVO TIMING CHART (2)


TP-2
IC9-⑥
IC7-①
IC10-⑪
IC11-③
TP-7 (IC11-①)
10
11
1
2
3
4
5
6
8
9
10
11
12
13
8 FG PULSE
RE-TRIGGER MMV OUTPUT
COINCIDENCE PULSE
DRIVE GATE PULSE
MOTOR ON PULSE
DRIVE PULSE
MOTOR ON PULSE
MOTOR DRIVE PWM PULSE
MOTOR BRAKE PWM PULSE
BRAKE GATE PULSE

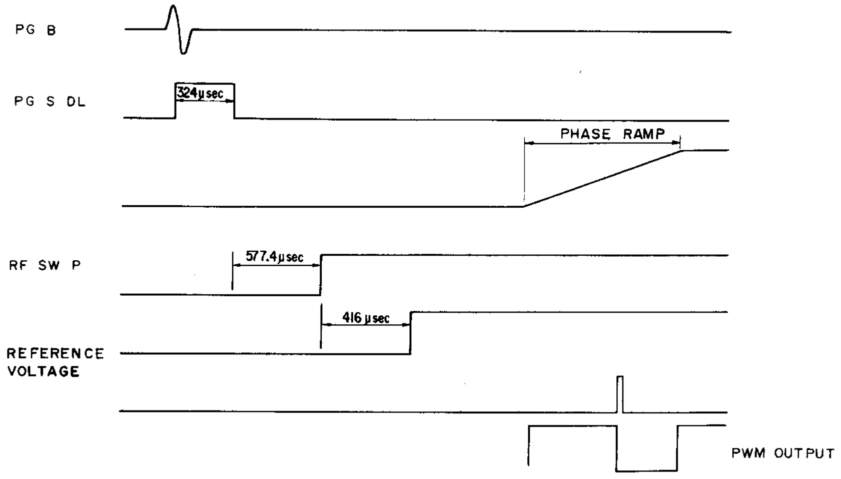
VARIABLE SPEED PB SERVO TIMING CHART (3)


(1) RF SW PULSE
(2) STEP (IC7-⑤)
(3) MD DELAY (IC12-①)
(4) WAVEFORM SHAPING (IC7-③)
(5) DRIVE GATE PULSE (IC7-①)
Syncronizes to the rise of Brake Gate Pulse
Variable by RV17

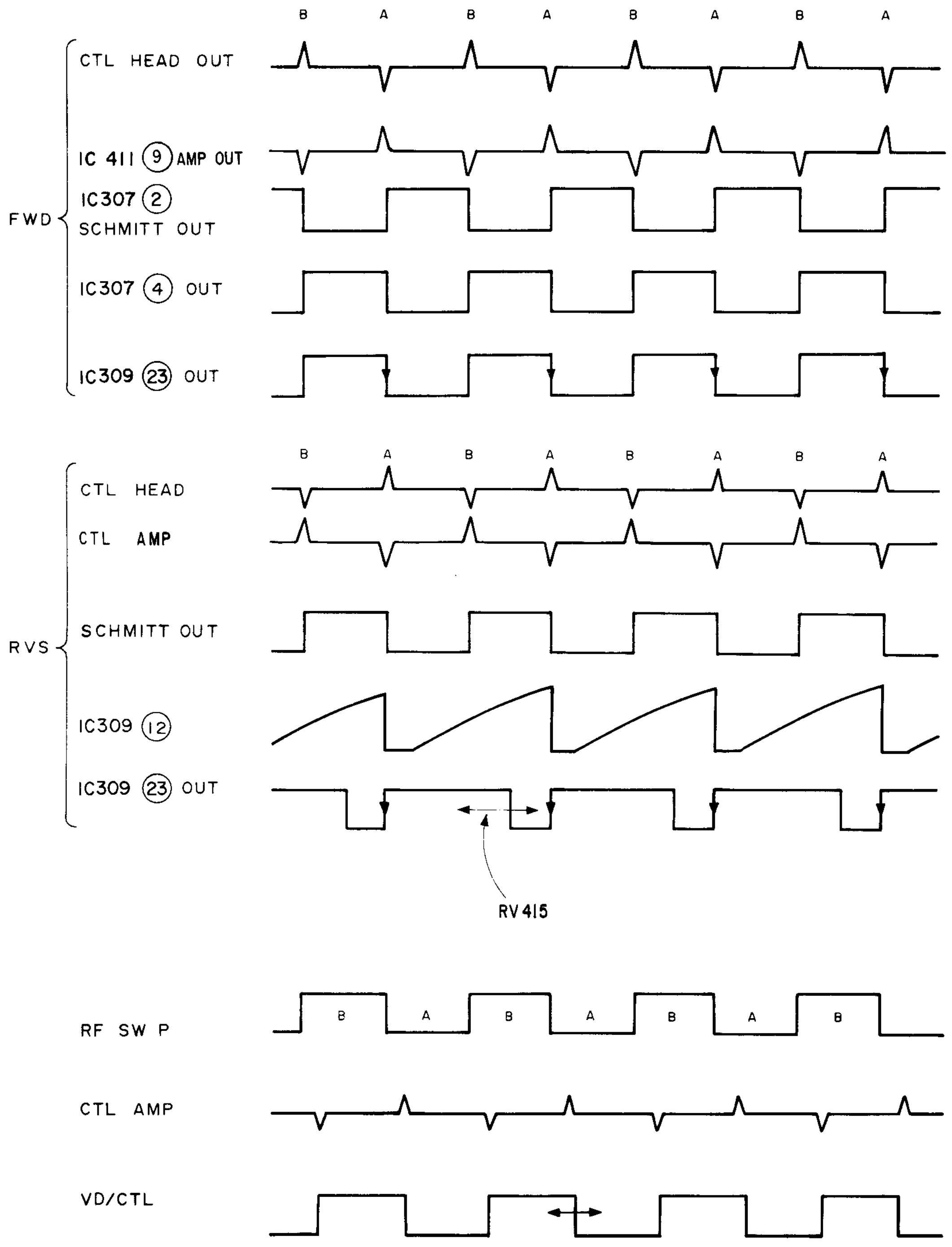
PG-A, PG-B, PG-S TIMING CHART



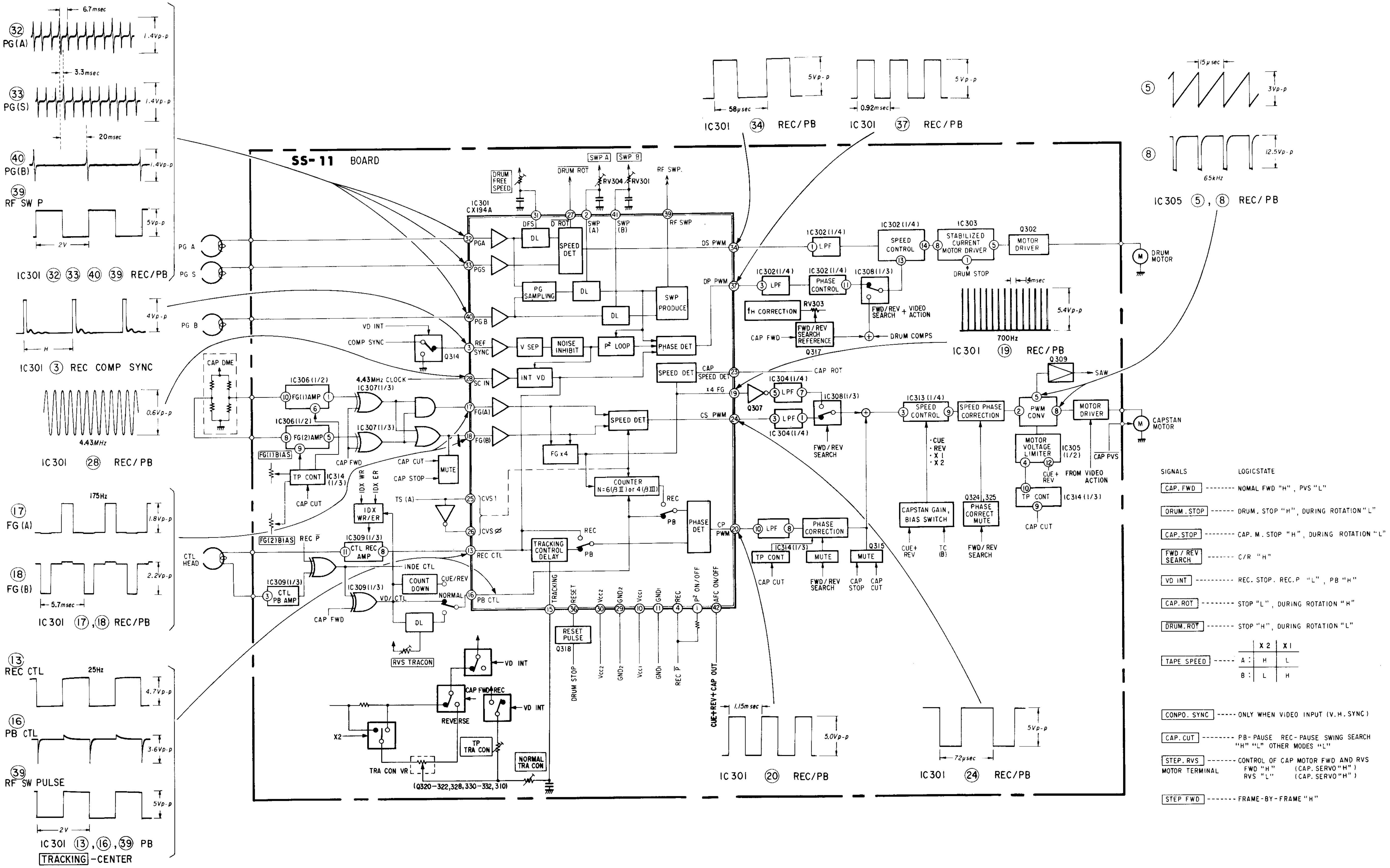
PG-A, PG-S TIMING CHART



CTL CIRCUIT OF IC409 TIMING CHART



3-4. SERVO BLOCK DIAGRAM (DRUM/CAPSTAN)


SS-11 BOARD
IC301 CX194A
㉜ PG(A) 1.4Vp-p 6.7msec
㉝ PG(S) 1.4Vp-p 3.3msec
㊵ PG(B) 1.4Vp-p 20msec
㊴ RF SW P 5Vp-p 2V
IC301 ㉜ ㉝ ㊵ ㊴ REC/PB
IC301 ③ REC COMP SYNC 4Vp-p H
IC301 ㉘ REC/PB 0.6Vp-p 4.43MHz
⑰ FG(A) 175Hz 1.8Vp-p
⑱ FG(B) 2.2Vp-p 5.7msec
IC301 ⑰,⑱ REC/PB
⑬ REC CTL 25Hz 4.7Vp-p
⑯ PB CTL 3.6Vp-p
㊴ RF SW PULSE 5Vp-p 2V
IC301 ⑬,⑯,㊴ PB
TRACKING -CENTER
IC301 ㉞ REC/PB 5Vp-p 58μsec
IC301 ㊲ REC/PB 5Vp-p 0.92msec
⑤ 15μsec 3Vp-p
⑧ 12.5Vp-p 65kHz
IC305 ⑤, ⑧ REC/PB
IC301 ⑲ REC/PB 5.4Vp-p 700Hz 1.4msec
IC301 ⑳ REC/PB 5.0Vp-p 1.15msec
IC301 ㉔ REC/PB 5Vp-p 72μsec
PG A
PG S
PG B
CTL HEAD
CAP DME
DRUM FREE SPEED
DRUM ROT
SWP A
SWP B
RV304
RV301
RF SWP
DFS
D ROT
SWP (A)
SWP (B)
RF SWP
DL
SPEED DET
PG SAMPLING
SWP PRODUCE
V SEP
NOISE INHIBIT
P² LOOP
PHASE DET
INT VD
SPEED DET
FG x4
COUNTER N=6(βⅡ)or 4(βⅢ)
TRACKING CONTROL DELAY
PHASE DET
RESET PULSE
Q318
DS PWM
DP PWM
CAP SPEED DET
x4 FG
CS PWM
CP PWM
VD INT
COMP SYNC
Q314
4.43MHz CLOCK
IC306(1/2) FG(1)AMP
IC306(1/2) FG(2)AMP
IC307(1/3)
FG(1)BIAS
FG(2)BIAS
TP CONT
IC314(1/3)
CAP CUT
CAP FWD
CAP STOP
MUTE
IDX WR
IDX ER
IDX WR/ER
TS(A)
CVS1
CVS2
REC P̄
IC309(1/3) CTL REC AMP
IC309(1/3) CTL PB AMP
INDE CTL
COUNT DOWN
CUE/REV
NORMAL
VD/CTL
PB CTL
REC CTL
RVS TRACON
VD INT
CAP FWD+REC
REVERSE
X2
TP TRA CON
TRA CON VR
NORMAL TRA CON
(Q320–322,328,330–332,310)
TRACKING
RESET
Vcc2
GND2
Vcc1
GND1
REC
P² ON/OFF
AFC ON/OFF
DRUM STOP
REC P̄
CUE+REV+CAP OUT
IC302(1/4) LPF
IC302(1/4) SPEED CONTROL
IC303 STABILIZED CURRENT MOTOR DRIVER
Q302 MOTOR DRIVER
DRUM MOTOR
DRUM STOP
IC302(1/4) PHASE CONTROL
IC308(1/3)
fH CORRECTION
RV303
FWD/REV SEARCH REFERENCE
Q317
CAP FWD
FWD/REV SEARCH + VIDEO ACTION
DRUM COMPS
CAP ROT
IC304(1/4) LPF
Q307
IC308(1/3)
FWD/REV SEARCH
IC313(1/4) SPEED CONTROL
SPEED PHASE CORRECTION
PWM CONV
Q309
SAW
MOTOR DRIVER
CAPSTAN MOTOR
MOTOR VOLTAGE LIMITER
IC305(1/2)
CUE+REV
FROM VIDEO ACTION
CAP PVS
TP CONT
IC314(1/3)
CAP CUT
·CUE ·REV ·X1 ·X2
CAPSTAN GAIN, BIAS SWITCH
Q324,325 PHASE CORRECT MUTE
LPF
PHASE CORRECTION
IC314(1/3) TP CONT
MUTE
Q315 MUTE
CAP CUT
FWD/REV SEARCH
CAP STOP
CAP CUT
CUE+REV
TC (B)
FWD/REV SEARCH
REC
PB

SIGNALS LOGICSTATE

CAP. FWD -------- NOMAL FWD "H", PVS "L"

DRUM. STOP ------ DRUM. STOP "H", DURING ROTATION "L"

CAP. STOP -------- CAP. M. STOP "H", DURING ROTATION "L"

FWD / REV SEARCH ------- C/R "H"

VD INT ---------- REC. STOP. REC.P "L", PB "H"

CAP. ROT -------- STOP "L", DURING ROTATION "H"

DRUM. ROT ------- STOP "H", DURING ROTATION "L"

TAPE SPEED -----

	X 2	X 1
A :	H	L
B :	L	H

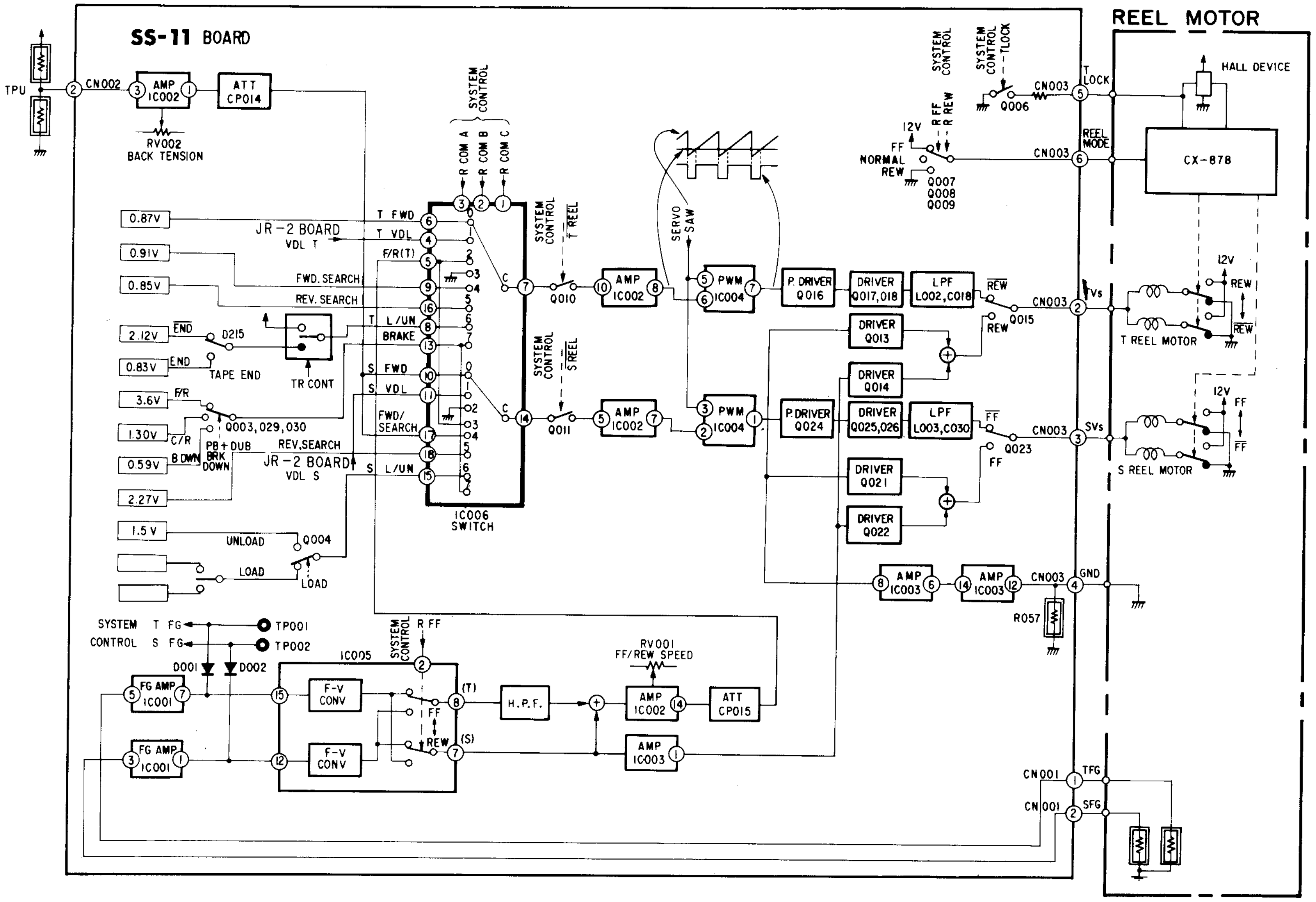
CONPO. SYNC -----ONLY WHEN VIDEO INPUT (V.H.SYNC)

CAP. CUT -------- PB-PAUSE REC-PAUSE SWING SEARCH "H" "L" OTHER MODES "L"

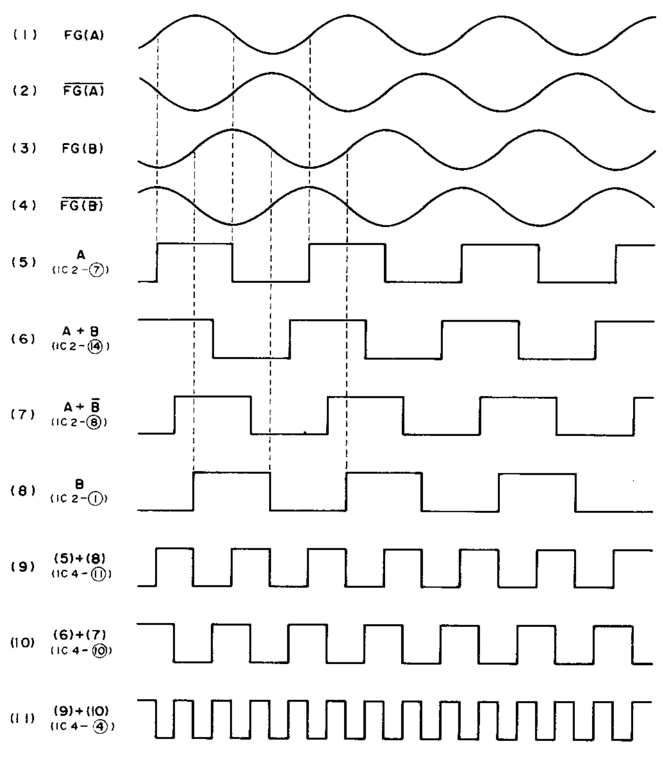
STEP. RVS ------- CONTROL OF CAP MOTOR FWD AND RVS
MOTOR TERMINAL FWD "H" (CAP. SERVO "H")
RVS "L" (CAP. SERVO "H")

STEP FWD ------- FRAME-BY-FRAME "H"

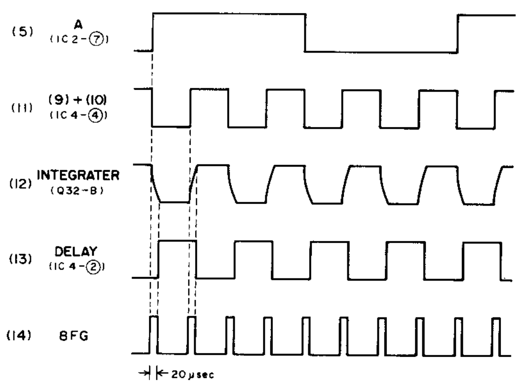
3-5. SERVO BLOCK DIAGRAM (REEL)


SS-11 BOARD
REEL MOTOR
TPU
CN002
AMP IC002
ATT CP014
RV002 BACK TENSION
SYSTEM CONTROL
R COM A
R COM B
R COM C
0.87V
0.91V
0.85V
2.12V
0.83V
3.6V
1.30V
0.59V
2.27V
1.5V
JR-2 BOARD
VDL T
T FWD
T VDL
F/R(T)
FWD. SEARCH
REV. SEARCH
T L/UN
BRAKE
S FWD
S VDL
FWD/SEARCH
S L/UN
END
D215
TAPE END
TR CONT
F/R
C/R
Q003, 029, 030
PB+DUB
BRK DOWN
B DOWN
REV. SEARCH
JR-2 BOARD
VDL S
UNLOAD
LOAD
Q004
IC006 SWITCH
SYSTEM CONTROL T REEL
SYSTEM CONTROL S REEL
Q010
Q011
AMP IC002
SERVO SAW
PWM IC004
P. DRIVER Q016
P. DRIVER Q024
DRIVER Q017, 018
DRIVER Q013
DRIVER Q014
DRIVER Q025, 026
DRIVER Q021
DRIVER Q022
LPF L002, C018
LPF L003, C030
REW
FF
Q015
Q023
AMP IC003
CN003
R057
SYSTEM CONTROL
SYSTEM CONTROL T LOCK
R FF
R REW
12V
FF
NORMAL
REW
Q006
Q007
Q008
Q009
T LOCK
REEL MODE
CX-878
HALL DEVICE
Vs
T REEL MOTOR
SVs
S REEL MOTOR
GND
SYSTEM CONTROL
T FG
S FG
TP001
TP002
D001
D002
FG AMP IC001
IC005
SYSTEM CONTROL R FF
F-V CONV
(T)
(S)
FF
REW
H.P.F.
RV001 FF/REW SPEED
AMP IC002
ATT CP015
AMP IC003
CN001
TFG
SFG

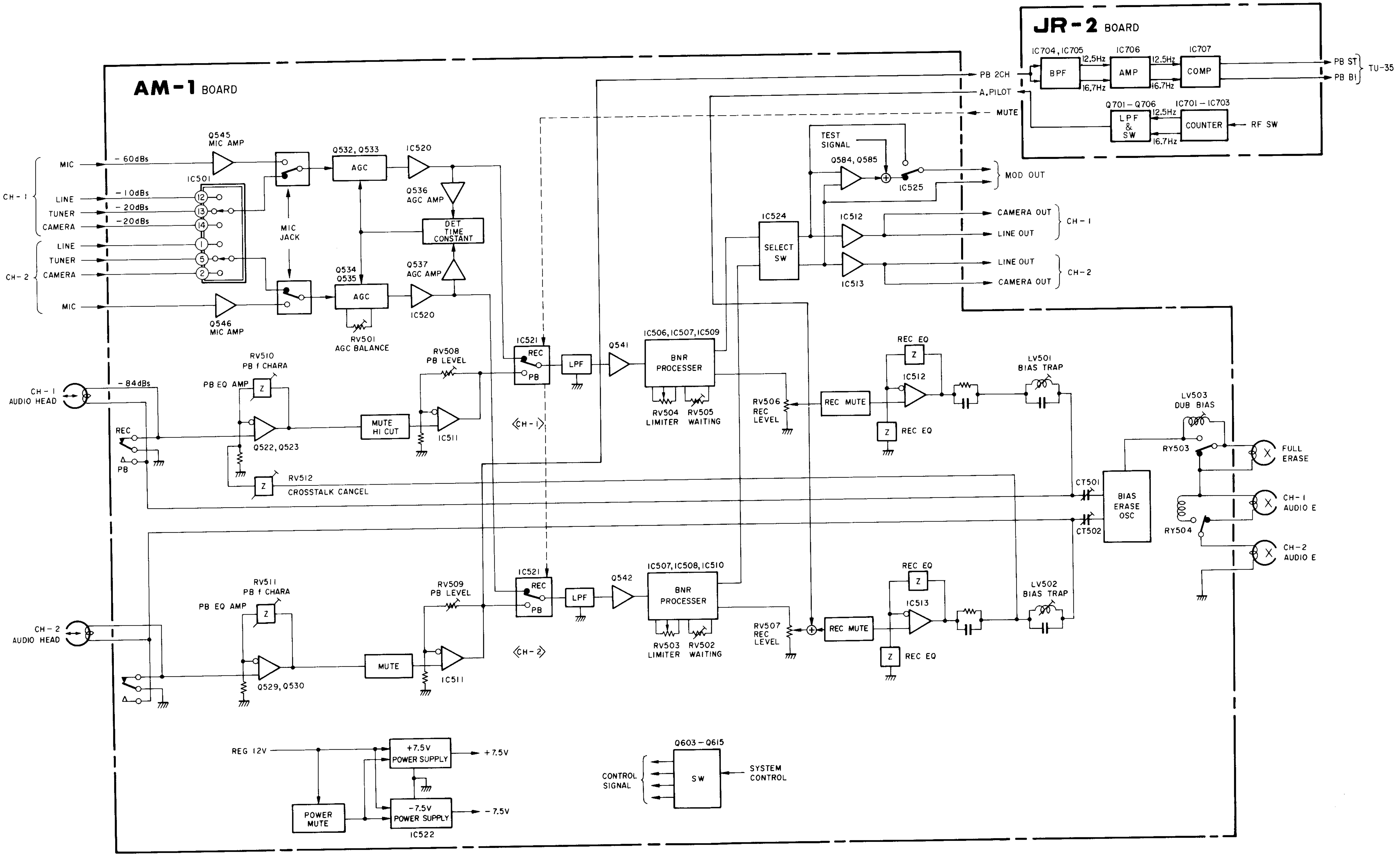
8FG SIGNAL GENERATOR TIMING CHART (1)



8FG SIGNAL GENERATOR TIMING CHART (2)



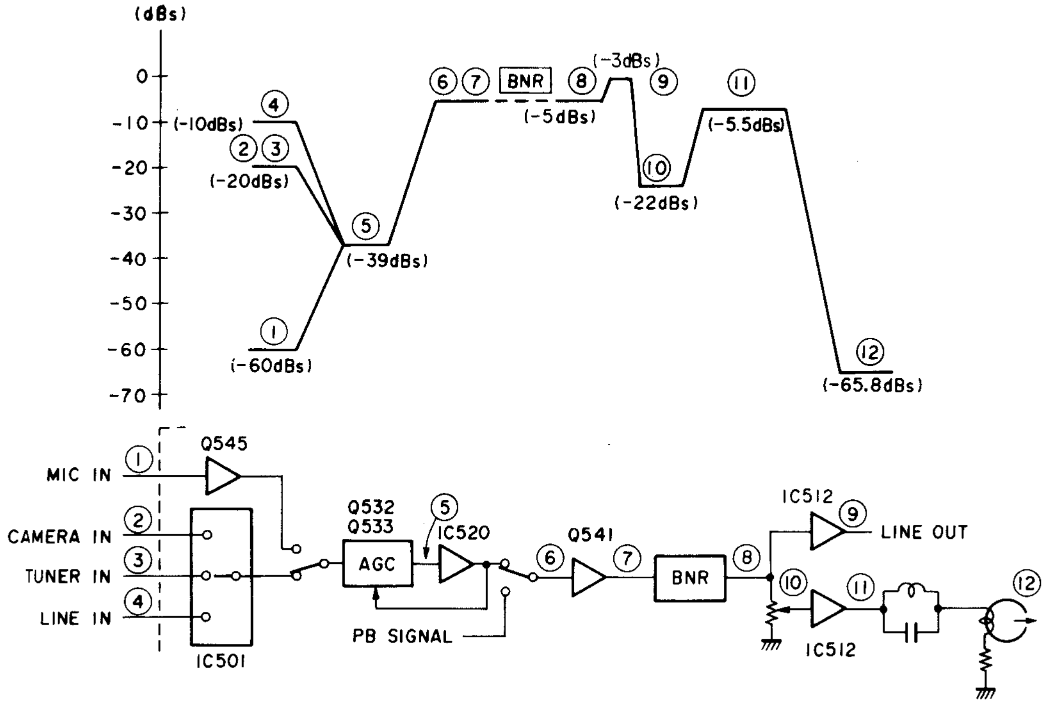
3-6. AUDIO BLOCK DIAGRAM



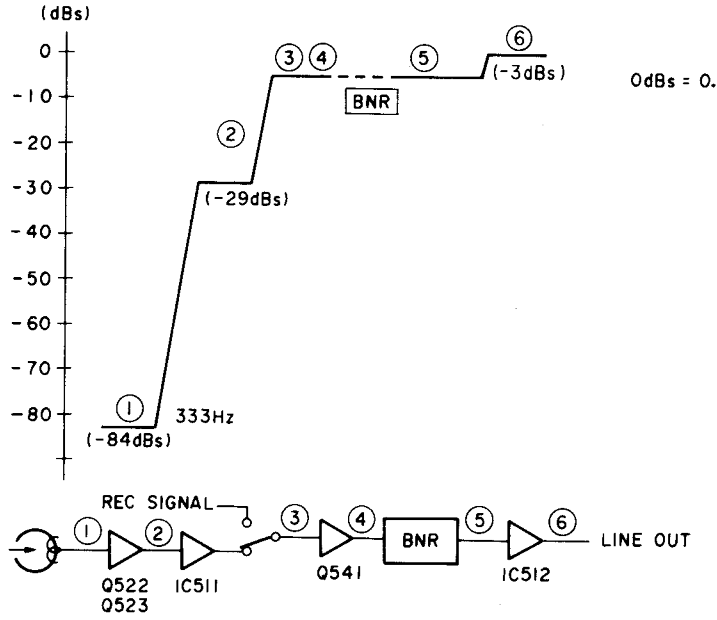
JR-2 BOARD
IC704, IC705
BPF
12.5Hz
16.7Hz
IC706
AMP
IC707
COMP
PB ST
PB BI
TU-35
Q701 - Q706
LPF & SW
IC701 - IC703
COUNTER
RF SW
PB 2CH
A.PILOT
MUTE
AM-1 BOARD
CH-1
MIC
LINE
TUNER
CAMERA
CH-2
LINE
TUNER
CAMERA
MIC
- 60dBs
- 10dBs
- 20dBs
- 20dBs
IC501
Q545
MIC AMP
Q546
MIC AMP
MIC JACK
Q532, Q533
AGC
IC520
Q536
AGC AMP
DET TIME CONSTANT
Q534
Q535
AGC
Q537
AGC AMP
IC520
RV501
AGC BALANCE
TEST SIGNAL
Q584, Q585
IC525
MOD OUT
IC524
SELECT SW
IC512
IC513
CAMERA OUT
LINE OUT
CH-1
LINE OUT
CAMERA OUT
CH-2
CH-1 AUDIO HEAD
- 84dBs
REC
PB
RV510
PB f CHARA
PB EQ AMP
Q522, Q523
RV512
CROSSTALK CANCEL
MUTE HI CUT
IC511
RV508
PB LEVEL
IC521
REC
PB
LPF
Q541
IC506, IC507, IC509
BNR PROCESSER
RV504
LIMITER
RV505
WAITING
RV506
REC LEVEL
REC MUTE
REC EQ
IC512
REC EQ
LV501
BIAS TRAP
LV503
DUB BIAS
RY503
FULL ERASE
CT501
BIAS ERASE OSC
CT502
CH-1 AUDIO E
RY504
CH-2 AUDIO E
<CH-1>
CH-2 AUDIO HEAD
RV511
PB f CHARA
PB EQ AMP
Q529, Q530
MUTE
IC511
RV509
PB LEVEL
IC521
REC
PB
LPF
Q542
IC507, IC508, IC510
BNR PROCESSER
RV503
LIMITER
RV502
WAITING
<CH-2>
RV507
REC LEVEL
REC MUTE
REC EQ
IC513
REC EQ
LV502
BIAS TRAP
REG 12V
+7.5V POWER SUPPLY
+ 7.5V
POWER MUTE
-7.5V POWER SUPPLY
- 7.5V
IC522
Q603 - Q615
SW
CONTROL SIGNAL
SYSTEM CONTROL

AUDIO LEVEL DIAGRAM

– REC MODE –

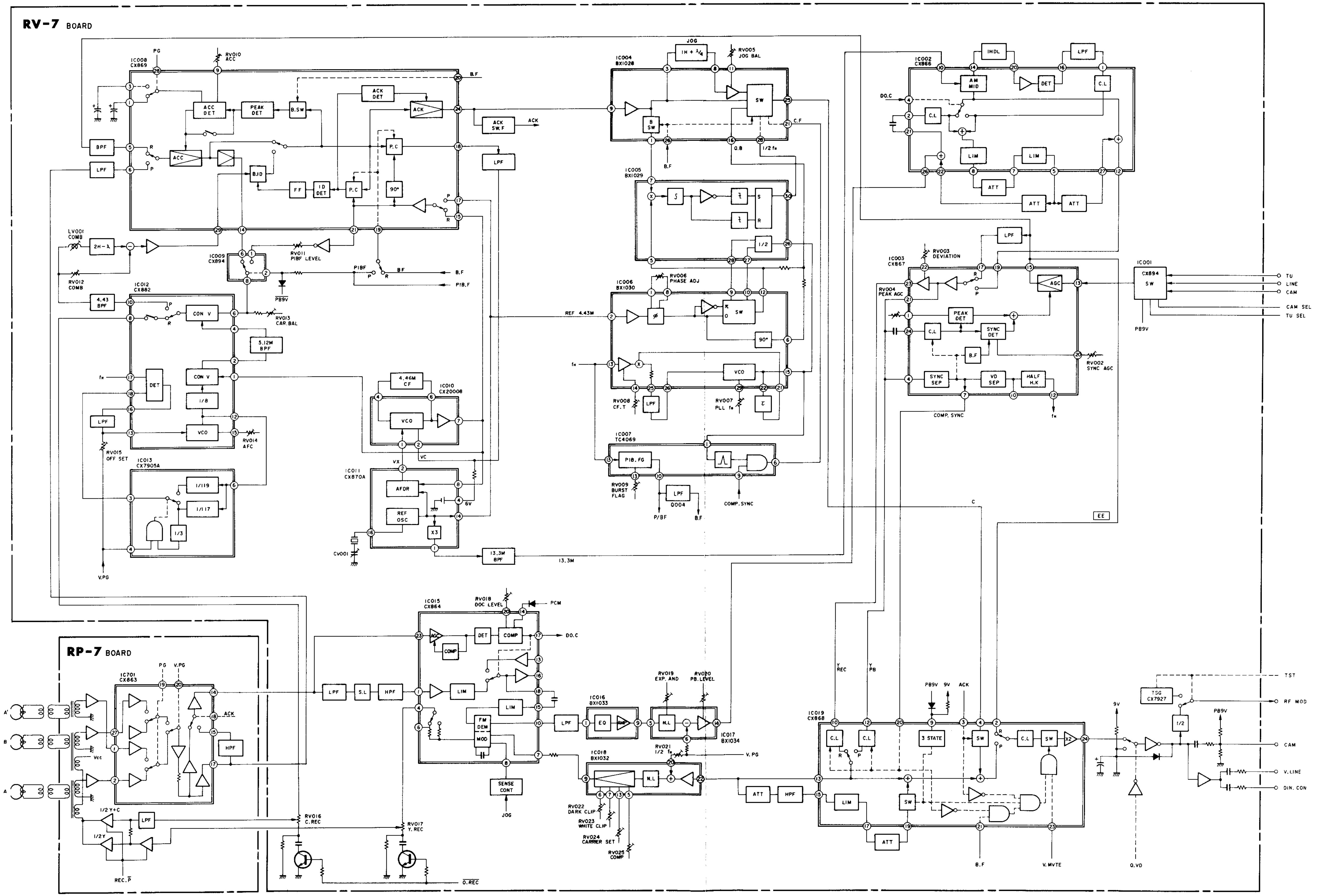

(dBs)
0
-10
-20
-30
-40
-50
-60
-70
④ (-10dBs)
②③ (-20dBs)
⑤ (-39dBs)
① (-60dBs)
⑥⑦ BNR ⑧ (-5dBs)
(-3dBs) ⑨
⑩ (-22dBs)
⑪ (-5.5dBs)
⑫ (-65.8dBs)
MIC IN ①
Q545
CAMERA IN ②
TUNER IN ③
LINE IN ④
IC501
Q532
Q533
AGC
⑤ IC520
PB SIGNAL
⑥ Q541 ⑦
BNR
⑧
IC512
⑨ LINE OUT
⑩ ⑪
IC512
⑫

– PB MODE –

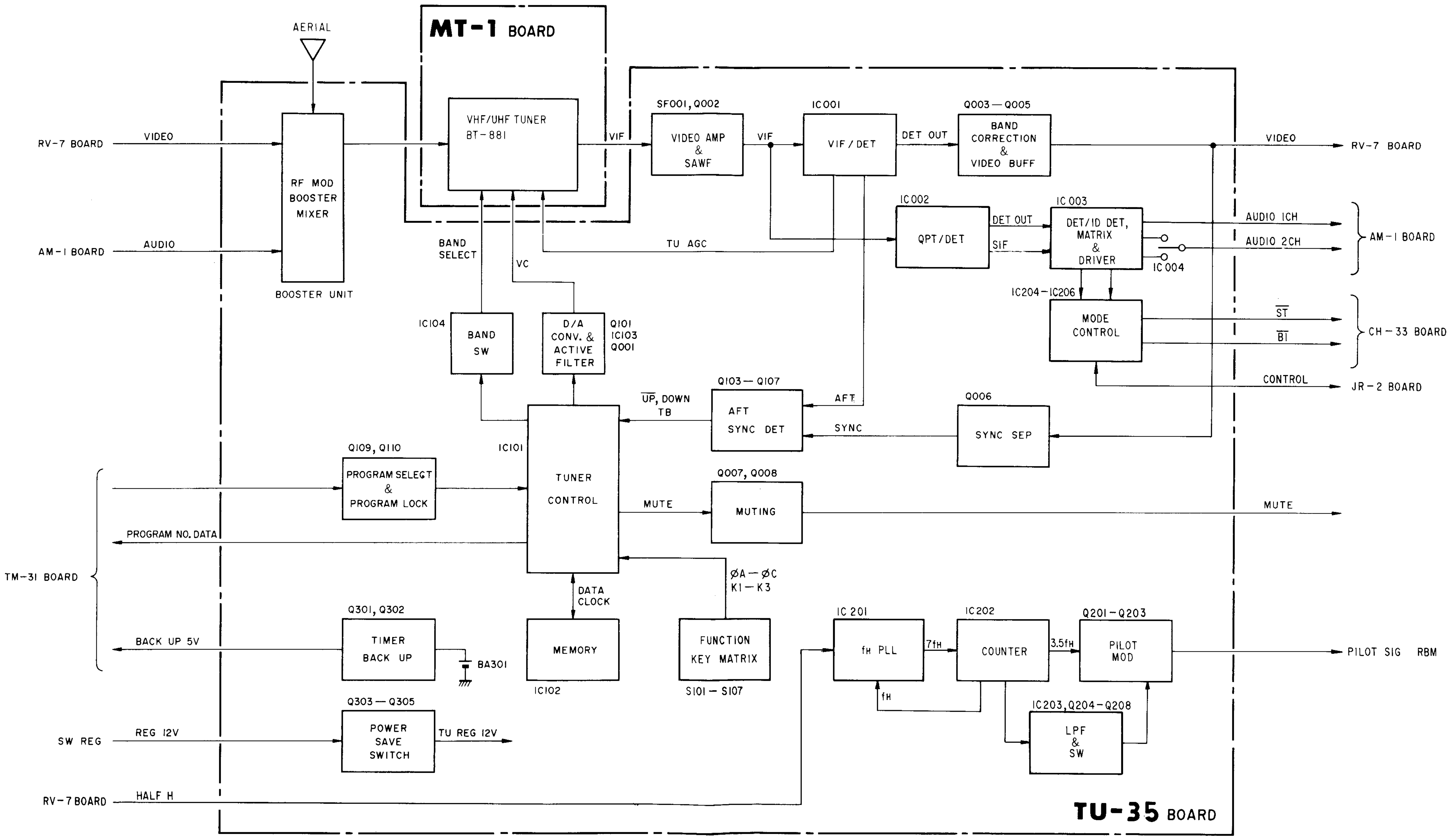

(dBs)
0
-10
-20
-30
-40
-50
-60
-70
-80
① (-84dBs) 333Hz
② (-29dBs)
③④
BNR
⑤
⑥ (-3dBs)
REC SIGNAL
① ② ③ ④ BNR ⑤ ⑥ LINE OUT
Q522
Q523
IC511
Q541
IC512

0dBs = 0.775Vrms

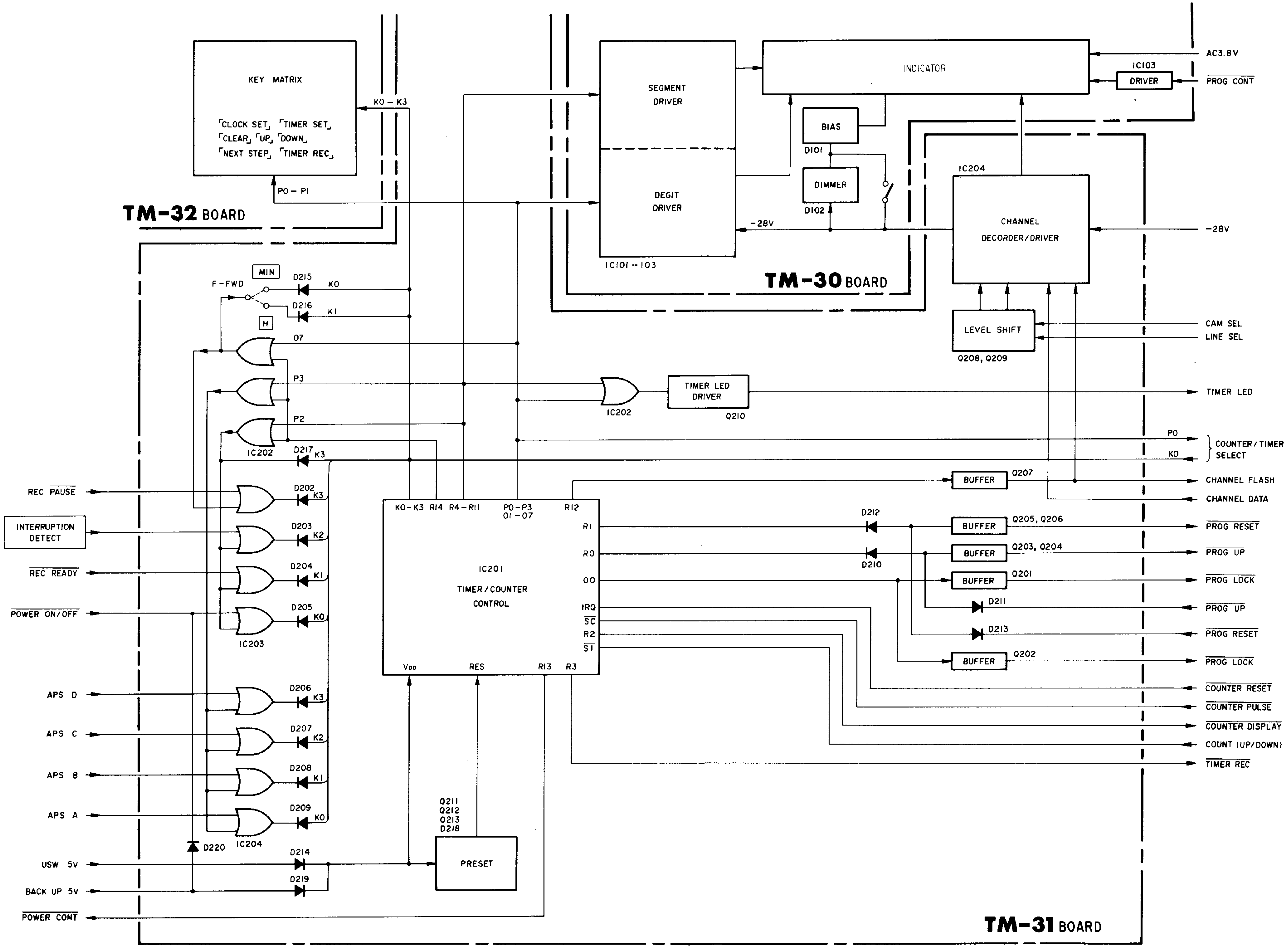
3-7. VIDEO BLOCK DIAGRAM


RV-7 BOARD
RP-7 BOARD
IC008 CX869
PG
RV010 ACC
B.F
ACC DET
PEAK DET
B.SW
ACK DET
ACK
ACK SW.F
BPF
LPF
ACC
BID
FF
ID DET
P.C
90°
LV001 COMB
2H-λ
RV012 COMB
IC009 CX894
RV011 PIBF LEVEL
PIBF
PIB.F
PB9V
4.43 BPF
IC012 CX882
CON V
RV013 CAR.BAL
5.12M BPF
DET
1/8
VCO
RV014 AFC
RV015 OFF SET
IC013 CX7905A
1/119
1/117
1/3
V.PG
4.46M CF
IC010 CX20008
VX
VC
IC011 CX870A
AFDR
REF OSC
X3
6V
CV001
13.3M BPF
13.3M
JOG
1H + λ/4
RV005 JOG BAL
IC004 BX1028
B SW
SW
C.F
Q.B
1/2 fH
IC005 BX1029
S
R
1/2
RV006 PHASE ADJ
IC006 BX1030
REF 4.43M
fH
RV008 CF.T
RV007 PLL fH
τ
IC007 TC4069
PIB. FG
RV009 BURST FLAG
Q004
P/BF
COMP. SYNC
IC002 CX866
IHDL
AM MID
DO.C
C.L
LIM
ATT
IC003 CX867
RV003 DEVIATION
RV004 PEAK AGC
AGC
PEAK DET
SYNC DET
SYNC SEP
VD SEP
HALF H.K
RV002 SYNC AGC
IC001 CX894
TU
LINE
CAM
CAM SEL
TU SEL
EE
C
IC015 CX864
RV018 DOC LEVEL
PCM
COMP
DO.C
LPF
S.L
HPF
FM DEM
MOD
SENSE CONT
IC016 BX1033
EQ
RV019 EXP. AMD
RV020 PB. LEVEL
N.L
IC017 BX1034
RV021 1/2 fH
IC018 BX1032
RV022 DARK CLIP
RV023 WHITE CLIP
RV024 CARRIER SET
RV025 COMP
IC701 CX863
Vcc
A'
B
A
1/2 Y+C
1/2 Y
RV016 C.REC
RV017 Y.REC
REC.P
O.REC
Y REC
Y PB
IC019 CX868
P89V
9V
3 STATE
X2
B.F
V. MVTE
TST
TSG CX7927
RF MOD
PB9V
V. LINE
DIN. CON
Q.VD

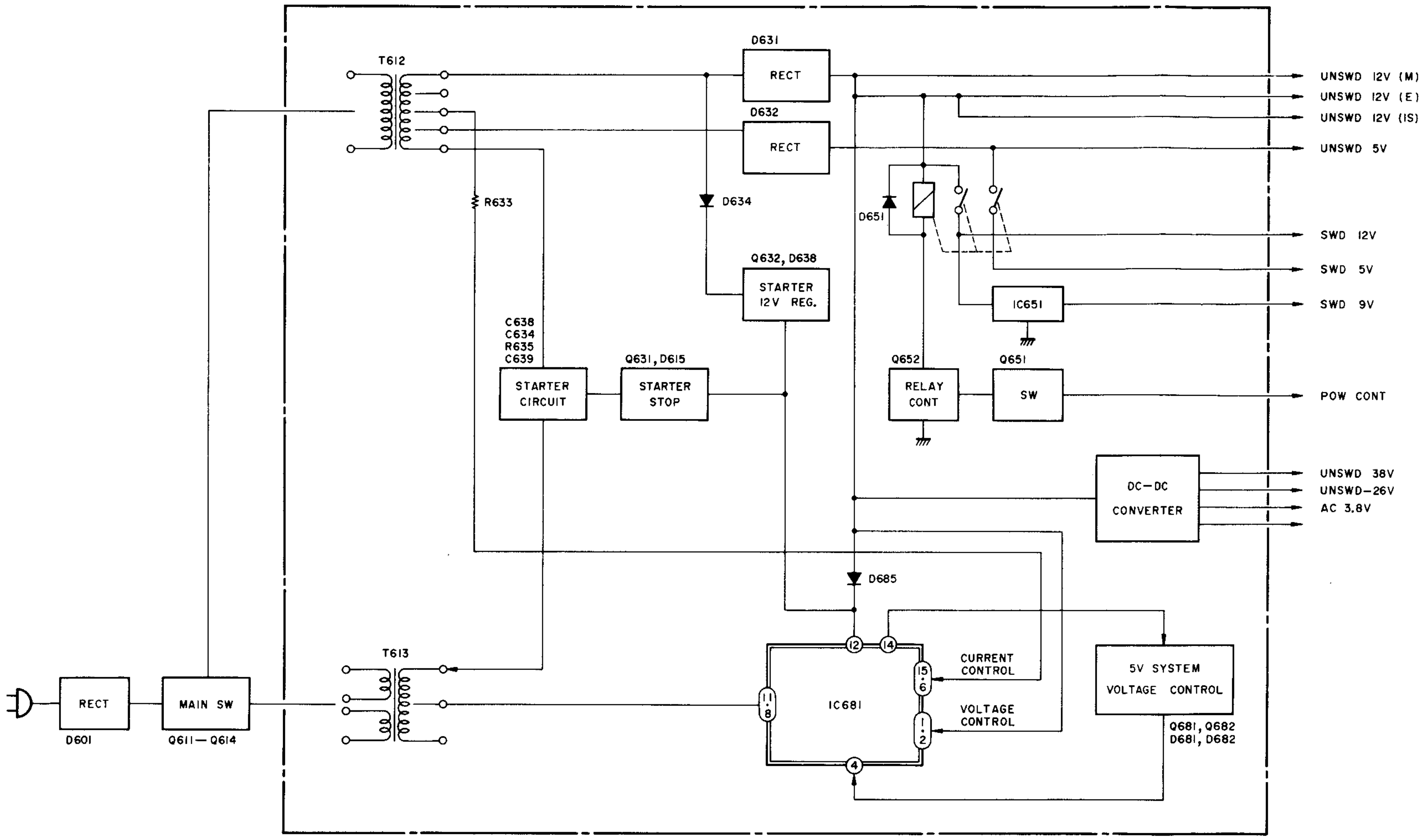
3-8. TUNER BLOCK DIAGRAM


MT-1 BOARD
AERIAL
RV-7 BOARD
VIDEO
AM-I BOARD
AUDIO
RF MOD
BOOSTER
MIXER
BOOSTER UNIT
VHF/UHF TUNER
BT-881
VIF
BAND
SELECT
VC
TU AGC
IC104
BAND
SW
D/A
CONV. &
ACTIVE
FILTER
Q101
IC103
Q001
SF001, Q002
VIDEO AMP
&
SAWF
VIF
IC001
VIF / DET
DET OUT
Q003 — Q005
BAND
CORRECTION
&
VIDEO BUFF
VIDEO
RV-7 BOARD
IC002
QPT/DET
DET OUT
SIF
IC003
DET/ID DET,
MATRIX
&
DRIVER
IC004
AUDIO 1CH
AUDIO 2CH
AM-I BOARD
IC204 — IC206
MODE
CONTROL
ST
BI
CH-33 BOARD
CONTROL
JR-2 BOARD
Q103 — Q107
AFT
SYNC DET
AFT
SYNC
Q006
SYNC SEP
UP, DOWN
TB
IC101
TUNER
CONTROL
Q109, Q110
PROGRAM SELECT
&
PROGRAM LOCK
PROGRAM NO. DATA
TM-31 BOARD
Q007, Q008
MUTING
MUTE
MUTE
ØA — ØC
K1 — K3
DATA
CLOCK
MEMORY
IC102
FUNCTION
KEY MATRIX
S101 — S107
Q301, Q302
TIMER
BACK UP
BA301
BACK UP 5V
Q303 — Q305
POWER
SAVE
SWITCH
TU REG 12V
SW REG
REG 12V
RV-7 BOARD
HALF H
IC 201
fH PLL
fH
7fH
IC202
COUNTER
3.5fH
Q201 — Q203
PILOT
MOD
IC203, Q204 — Q208
LPF
&
SW
PILOT SIG RBM
TU-35 BOARD

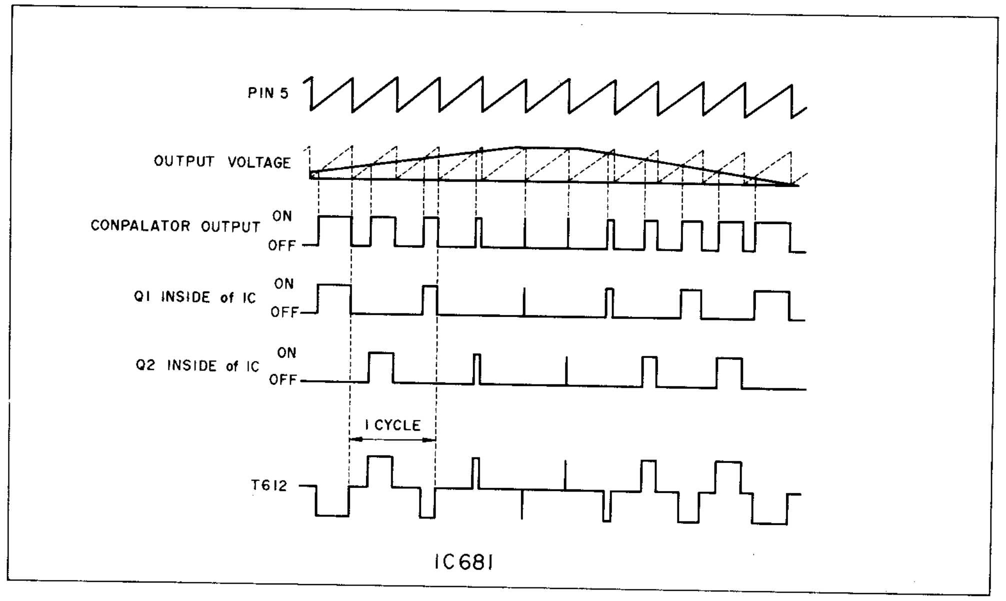
3-9. TIMER BLOCK DIAGRAM


KEY MATRIX
「CLOCK SET」 「TIMER SET」
「CLEAR」 「UP」 「DOWN」
「NEXT STEP」 「TIMER REC」
KO – K3
PO – PI
TM-32 BOARD
SEGMENT DRIVER
DEGIT DRIVER
IC101 – 103
-28V
INDICATOR
BIAS
D101
DIMMER
D102
IC103
DRIVER
AC3.8V
PROG CONT
IC204
CHANNEL DECORDER/DRIVER
-28V
TM-30 BOARD
LEVEL SHIFT
Q208, Q209
CAM SEL
LINE SEL
MIN
F-FWD
H
D215
KO
D216
KI
O7
P3
P2
IC202
D217
K3
TIMER LED DRIVER
Q210
IC202
TIMER LED
PO
KO
COUNTER/TIMER SELECT
BUFFER
Q207
CHANNEL FLASH
CHANNEL DATA
REC PAUSE
INTERRUPTION DETECT
REC READY
POWER ON/OFF
D202
K3
D203
K2
D204
K1
D205
KO
IC203
KO-K3 R14 R4-R11
PO-P3 01-07
R12
R1
RO
OO
IRQ
SC
R2
ST
IC201
TIMER/COUNTER CONTROL
VDD
RES
R13
R3
D212
D210
BUFFER
Q205, Q206
PROG RESET
BUFFER
Q203, Q204
PROG UP
BUFFER
Q201
PROG LOCK
D211
PROG UP
D213
PROG RESET
BUFFER
Q202
PROG LOCK
COUNTER RESET
COUNTER PULSE
COUNTER DISPLAY
COUNT (UP/DOWN)
TIMER REC
APS D
APS C
APS B
APS A
D206
K3
D207
K2
D208
K1
D209
KO
IC204
D220
USW 5V
BACK UP 5V
POWER CONT
D214
D219
Q211
Q212
Q213
D218
PRESET
TM-31 BOARD

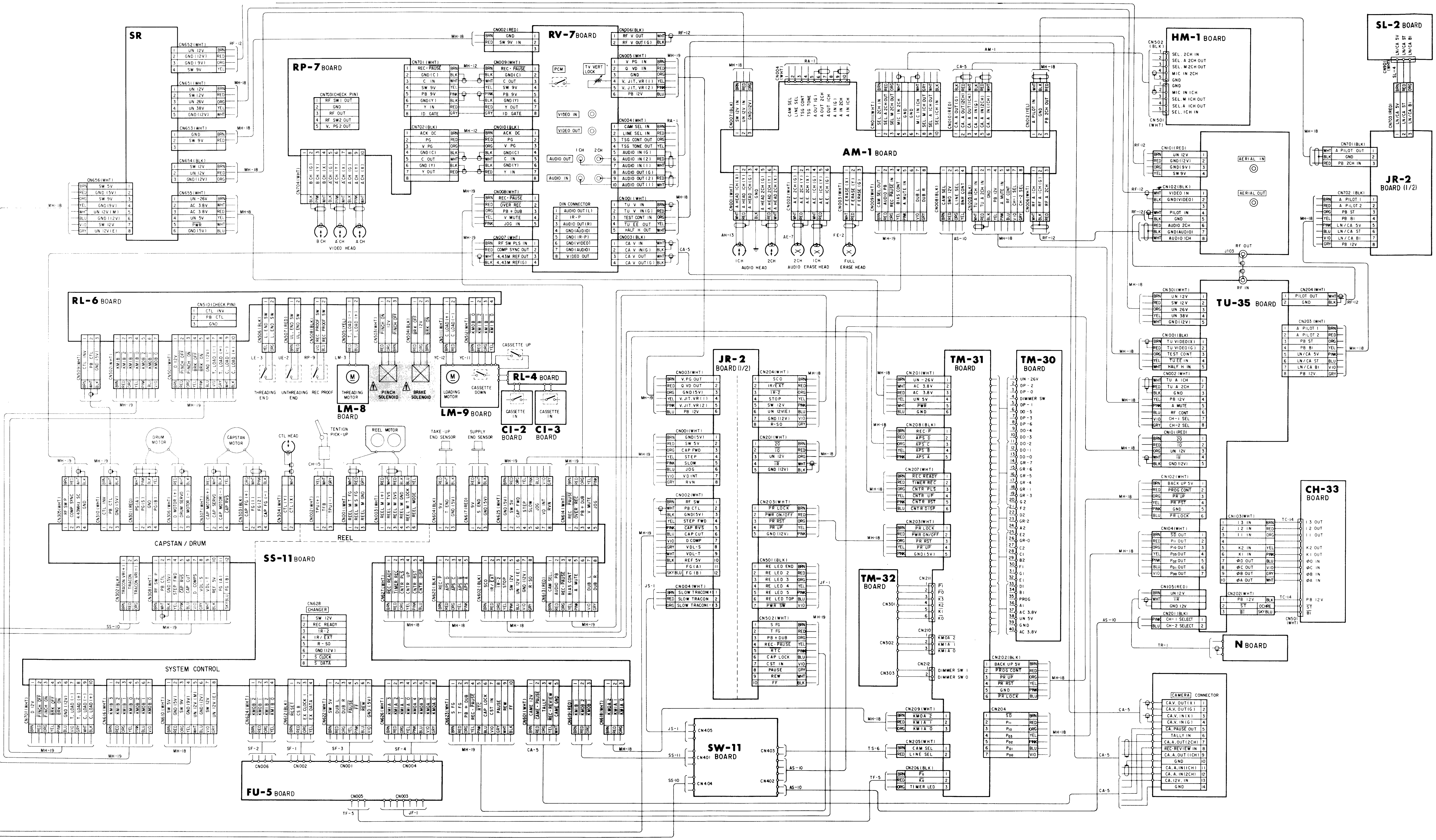
3-10. POWER SUPPLY BLOCK DIAGRAM


T612
D631
RECT
D632
RECT
R633
D634
D651
Q632, D638
STARTER
12V REG.
C638
C634
R635
C639
STARTER
CIRCUIT
Q631, D615
STARTER
STOP
IC651
Q652
RELAY
CONT
Q651
SW
DC-DC
CONVERTER
D685
IC681
CURRENT
CONTROL
VOLTAGE
CONTROL
5V SYSTEM
VOLTAGE CONTROL
Q681, Q682
D681, D682
T613
RECT
D601
MAIN SW
Q611 — Q614
UNSWD 12V (M)
UNSWD 12V (E)
UNSWD 12V (IS)
UNSWD 5V
SWD 12V
SWD 5V
SWD 9V
POW CONT
UNSWD 38V
UNSWD-26V
AC 3.8V

POWER SUPPLY TIMING CHART

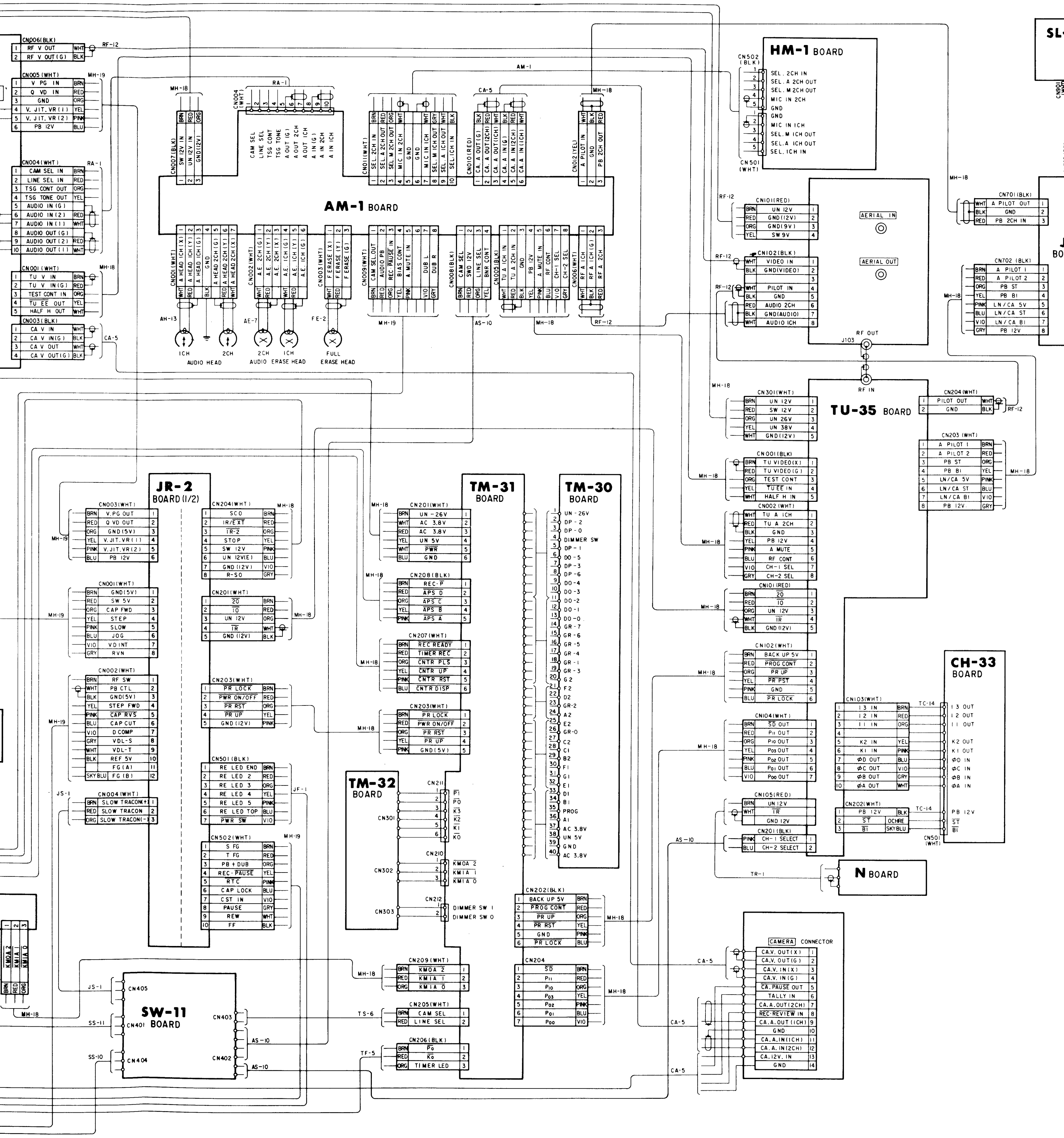


3-11. FRAME SCHEMATIC DIAGRAM

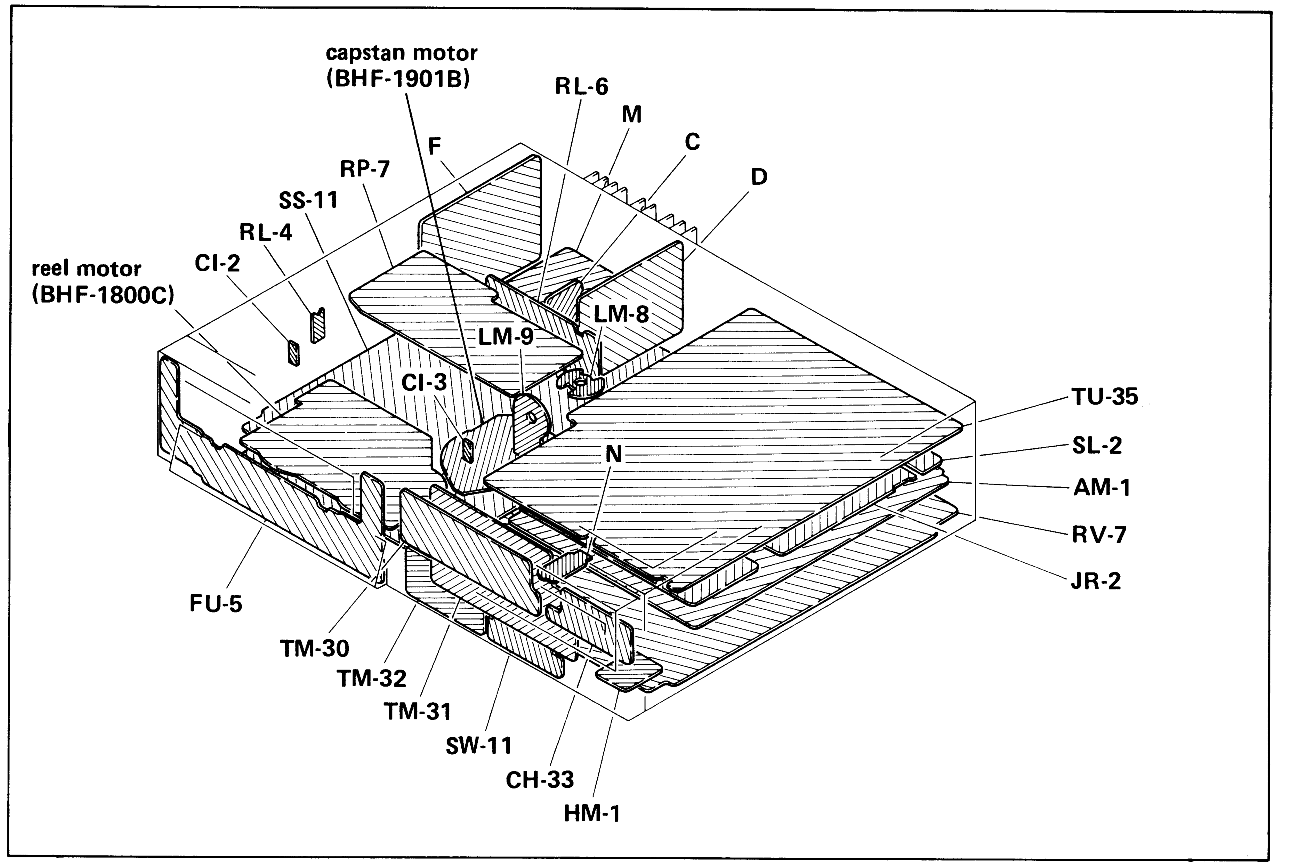

SR
RP-7 BOARD
RV-7 BOARD
AM-1 BOARD
HM-1 BOARD
SL-2 BOARD
JR-2 BOARD (1/2)
TU-35 BOARD
RL-6 BOARD
RL-4 BOARD
LM-8 BOARD
LM-9 BOARD
CI-2 BOARD
CI-3 BOARD
CAPSTAN / DRUM
REEL
SS-11 BOARD
SYSTEM CONTROL
FU-5 BOARD
SW-11 BOARD
TM-31 BOARD
TM-30 BOARD
TM-32 BOARD
CH-33 BOARD
N BOARD
CAMERA CONNECTOR
DIN CONNECTOR
VIDEO HEAD
AUDIO HEAD
AUDIO ERASE HEAD
FULL ERASE HEAD
DRUM MOTOR
CAPSTAN MOTOR
CTL HEAD
TENSION PICK-UP
REEL MOTOR
TAKE-UP END SENSOR
SUPPLY END SENSOR
THREADING MOTOR
PINCH SOLENOID
BRAKE SOLENOID
LOADING MOTOR
CASSETTE DOWN
CASSETTE UP
CASSETTE IN
AERIAL IN
AERIAL OUT
RF OUT
RF IN

3-12. CIF

reel moto
(BHF-180


HM-1 BOARD
AM-1 BOARD
SL-2 BOARD
JR-2 BOARD (1/2)
TU-35 BOARD
JR-2 BOARD (1/2)
TM-31 BOARD
TM-30 BOARD
TM-32 BOARD
CH-33 BOARD
N BOARD
SW-11 BOARD
CAMERA CONNECTOR
AUDIO HEAD
AUDIO ERASE HEAD
FULL ERASE HEAD
AERIAL IN
AERIAL OUT
RF OUT
RF IN
J103

3-12. CIRCUIT BOARDS LOCATION


capstan motor (BHF-1901B)
RL-6
M
C
D
RP-7
F
SS-11
RL-4
reel motor (BHF-1800C)
CI-2
LM-8
LM-9
CI-3
N
TU-35
SL-2
AM-1
RV-7
JR-2
FU-5
TM-30
TM-32
TM-31
SW-11
CH-33
HM-1

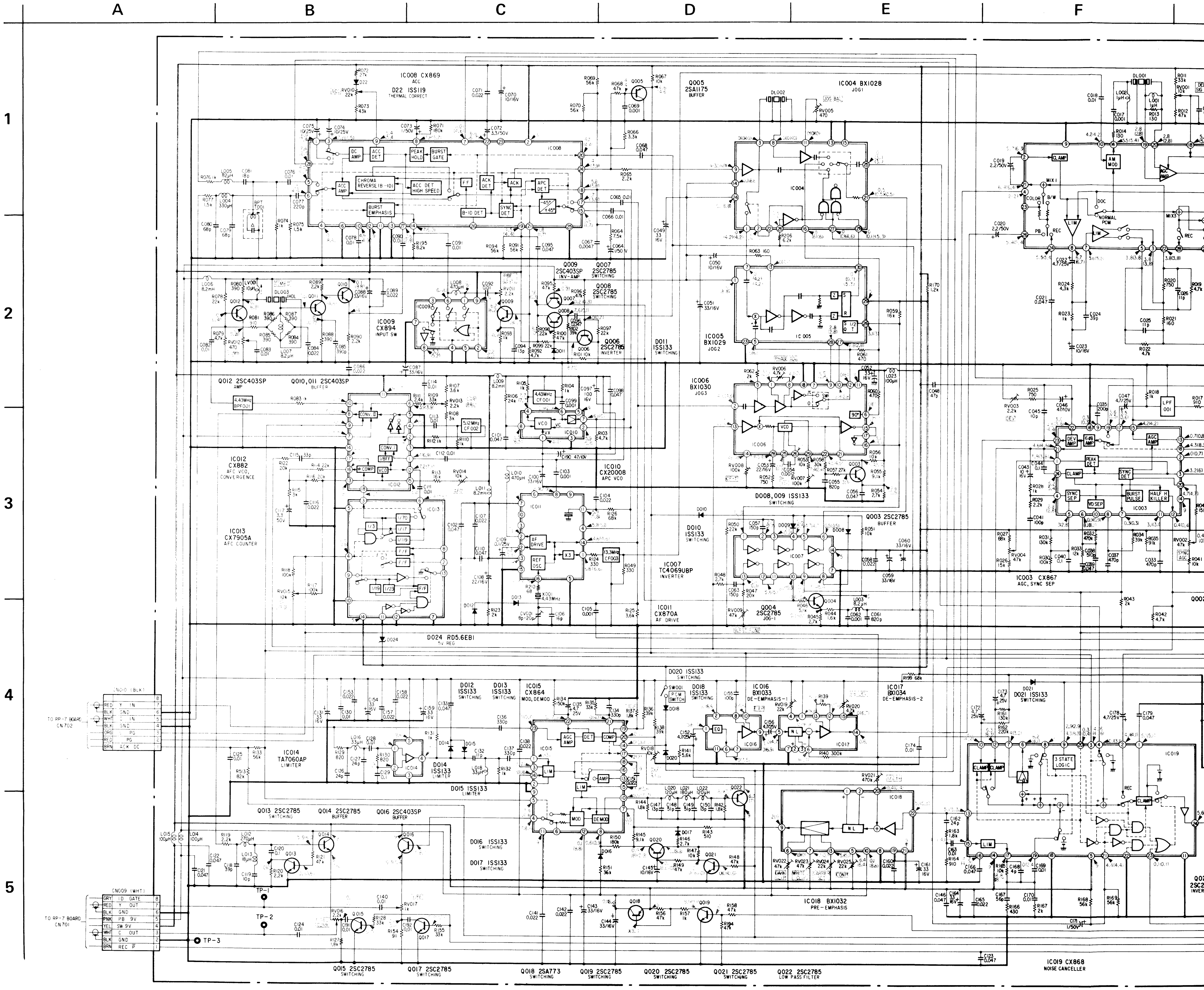
3-13. SCHEMATIC DIAGRAM – *Ref. No. 1000 series* –

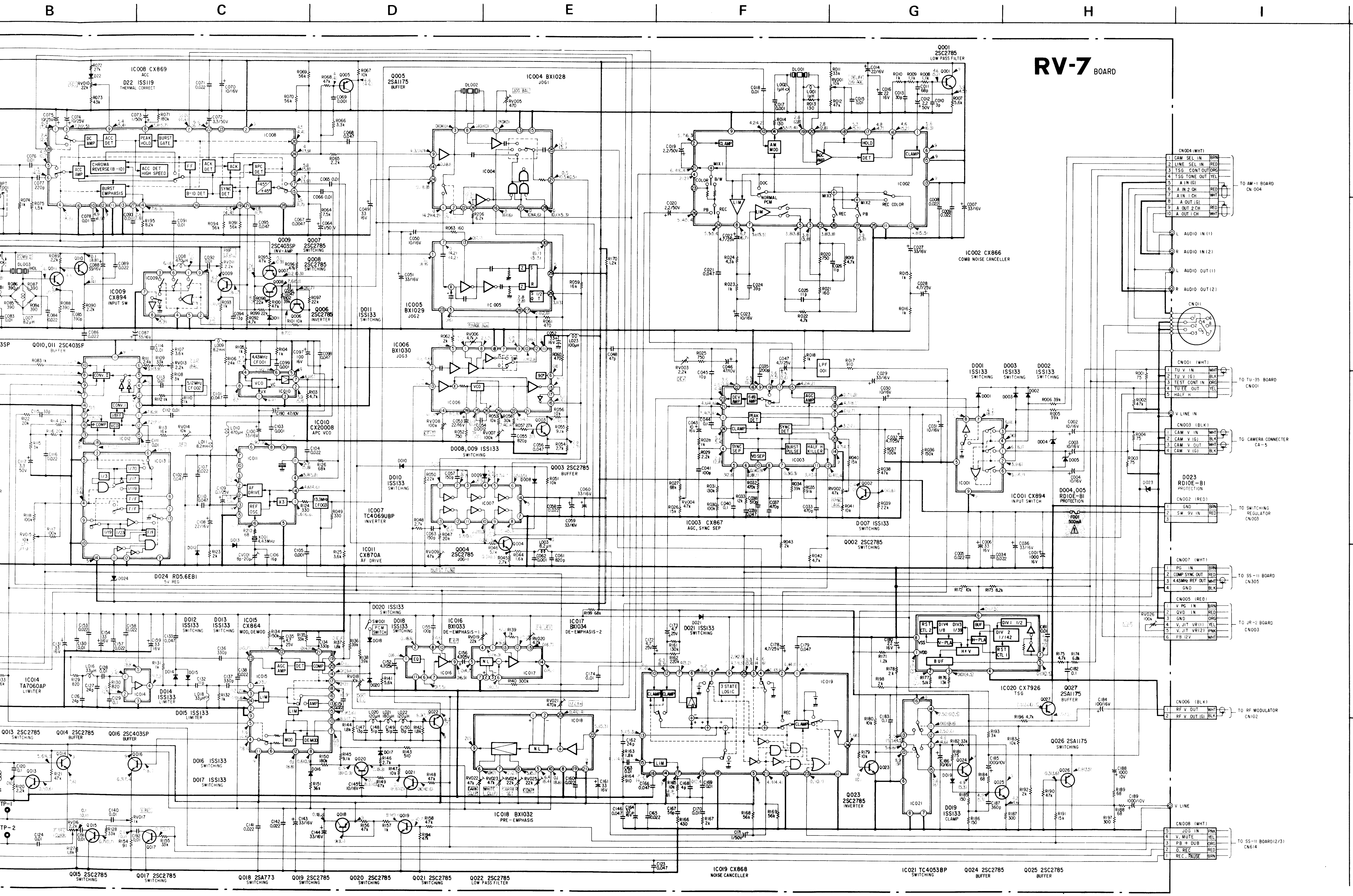
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms, 1/8 W unless otherwise noted. k: 1000 Ω, M: 1000 kΩ
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- △ : internal component.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- All voltages are in V.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ——— : B+ bus.
- – – – : B– bus.
- The red lines show the main voltages.
- Marked * is not able to measure the voltage of it's position.
- No mark: REC mode
- ( ) : PB mode
- < > : CUE/REV mode
- [ ] : TEST SIG mode

```
When indicating parts by refer-
ence number, please include
the board name.
```

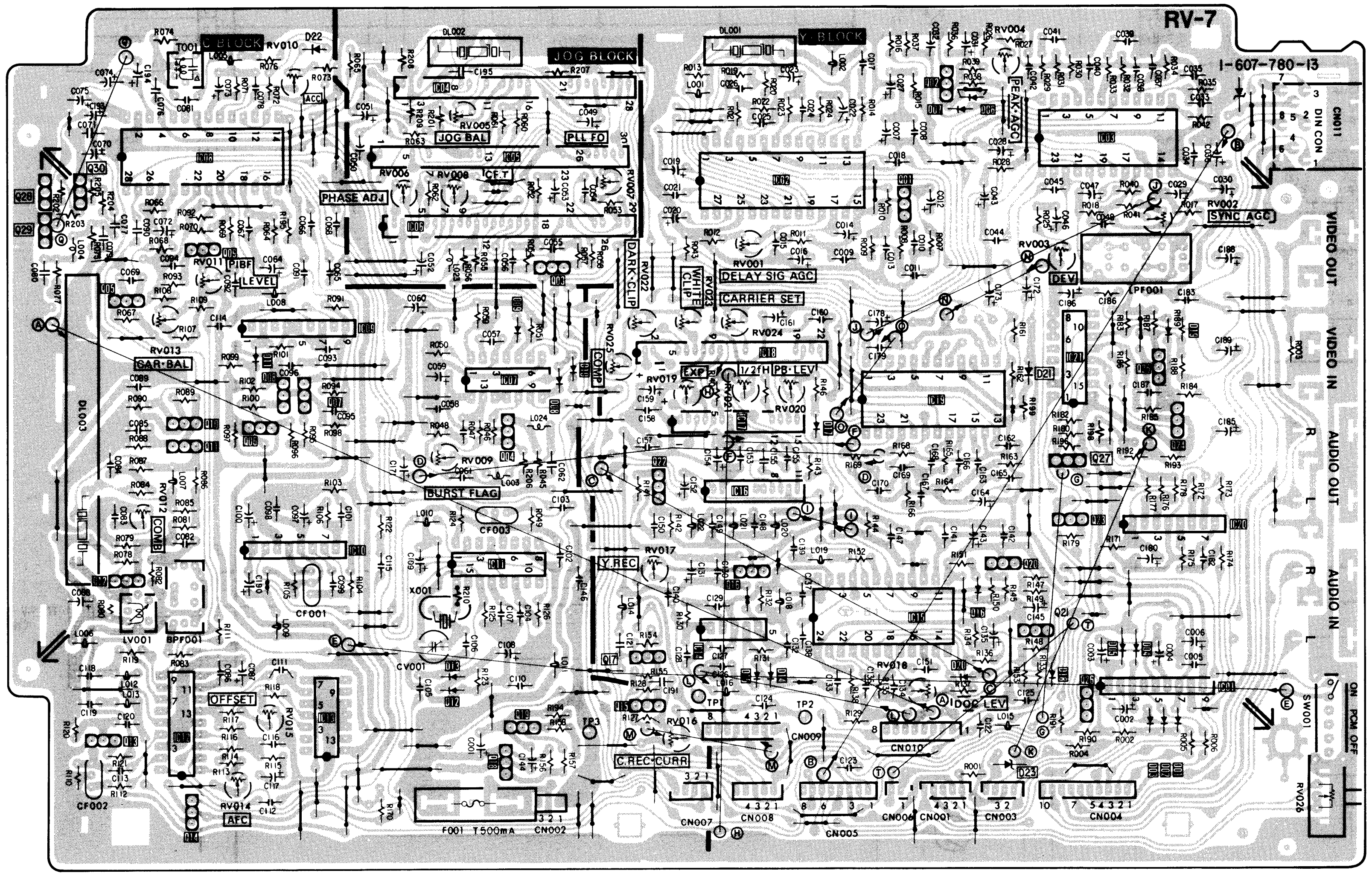

A
B
C
D
E
F
1
2
3
4
5
IC008 CX869 ACC
D22 1SS119 THERMAL CORRECT
Q005 2SA1175 BUFFER
IC004 BX1028 JOG1
Q009 2SC403SP INV-AMP
Q007 2SC2785 SWITCHING
Q008 2SC2785 SWITCHING
Q006 2SC2785 INVERTER
IC009 CX894 INPUT SW
D011 1SS133 SWITCHING
IC005 BX1029 JOG2
IC006 BX1030 JOG3
Q012 2SC403SP AMP
Q010,011 2SC403SP BUFFER
IC012 CX882 AFC VCO, CONVERGENCE
IC013 CX7905A AFC COUNTER
IC010 CX20008 APC VCO
IC011 CX870A AF DRIVE
IC007 TC4069UBP INVERTER
D010 1SS133 SWITCHING
D008,009 1SS133 SWITCHING
Q003 2SC2785 BUFFER
Q004 2SC2785 JOG-1
IC003 CX867 AGC, SYNC SEP
D024 RD5.6EB1 5V REG
D020 1SS133 SWITCHING
D012 1SS133 SWITCHING
D013 1SS133 SWITCHING
IC015 CX864 MOD, DEMOD
D018 1SS133 SWITCHING
IC016 BX1033 DE-EMPHASIS-1
IC017 BX1034 DE-EMPHASIS-2
D021 1SS133 SWITCHING
IC014 TA7060AP LIMITER
D014 1SS133 LIMITER
D015 1SS133 LIMITER
D016 1SS133 SWITCHING
D017 1SS133 SWITCHING
IC018 BX1032 PRE-EMPHASIS
IC019 CX868 NOISE CANCELLER
Q013 2SC2785 SWITCHING
Q014 2SC2785 BUFFER
Q016 2SC403SP BUFFER
Q015 2SC2785 SWITCHING
Q017 2SC2785 SWITCHING
Q018 2SA773 SWITCHING
Q019 2SC2785 SWITCHING
Q020 2SC2785 SWITCHING
Q021 2SC2785 SWITCHING
Q022 2SC2785 LOW PASS FILTER
CN010 (BLK)
TO RP-7 BOARD CN702
CN009 (WHT)
TO RP-7 BOARD CN701
TP-1
TP-2
TP-3

RV-7 BOARD
B
C
D
E
F
G
H
I
1
2
3
4
5
IC008 CX869 ACC
D22 1SS119 THERMAL CORRECT
CHROMA REVERSE (B-ID)
ACC DET HIGH SPEED
BURST EMPHASIS
PEAK HOLD
BURST GATE
DC AMP
ACC DET
ACK DET
APC DET
SYNC DET
B-ID DET
Q005 2SA1175 BUFFER
IC004 BX1028 JOG1
Q001 2SC2785 LOW PASS FILTER
IC002 CX866 COMB NOISE CANCELLER
AM MOD
CLAMP
HOLD
DET
MIX1
MIX2
MIX3
NORMAL PCM
REC COLOR
IC009 CX894 INPUT SW
Q009 2SC403SP INV-AMP
Q007 2SC2785 SWITCHING
Q008 2SC2785 SWITCHING
Q006 2SC2785 INVERTER
D011 1SS133 SWITCHING
IC005 BX1029 JOG2
Q010,011 2SC403SP BUFFER
IC006 BX1030 JOG3
IC010 CX20008 APC VCO
CONV. B
CONV. A
COMP
VCO
IC012
IC013
IC011
AF DRIVE
REF OSC
D010 1SS133 SWITCHING
IC007 TC4069UBP INVERTER
IC011 CX870A AF DRIVE
D008,009 1SS133 SWITCHING
Q003 2SC2785 BUFFER
Q004 2SC2785 JOG-1
D024 RD5.6EB1 5V REG
LPF 001
IC003 CX867 AGC, SYNC SEP
DEV AMP
AGC AMP
PEAK DET
SYNC DET
SYNC SEP
VD SEP
BURST PULSE
HALF H KILLER
D007 1SS133
Q002 2SC2785 SWITCHING
D001 1SS133 SWITCHING
D003 1SS133 SWITCHING
D002 1SS133 SWITCHING
IC001 CX894 INPUT SWITCH
D004,005 RD10E-B1 PROTECTION
F001 500mA
D023 RD10E-B1 PROTECTION
CN004 (WHT)
1 CAM SEL IN BRN
2 LINE SEL IN RED
3 TSG CONT OUT ORG
4 TSG TONE OUT YEL
5 A IN (G)
6 A IN 2 CH RED
7 A IN 1 CH WHT
8 A OUT (G)
9 A OUT 2 CH RED
10 A OUT 1 CH WHT
TO AM-1 BOARD CN 004
L AUDIO IN (1)
R AUDIO IN (2)
L AUDIO OUT (1)
R AUDIO OUT (2)
CN011
CN001 (WHT)
1 TU V IN WHT
2 TU V (G) BLK
3 TEST CONT IN ORG
4 TU EE OUT YEL
5 HALF H
TO TU-35 BOARD CN001
V LINE IN
CN003 (BLK)
1 CAM V IN WHT
2 CAM V (G) BLK
3 CAM V OUT WHT
4 CAM V (G) BLK
TO CAMERA CONNECTER CA-5
CN002 (RED)
1 GND BRN
2 SW 9V IN RED
3
TO SWITCHING REGULATOR CN003
CN007 (WHT)
1 PG IN BRN
2 COMP SYNC OUT RED
3 4.43MHz REF OUT WHT
4 GND BLK
TO SS-11 BOARD CN305
CN005 (RED)
1 V PG IN BRN
2 QVD IN RED
3 GND ORG
4 V. JIT VR(1) YEL
5 V. JIT VR(2) PNK
6 PB 12V WHT
TO JR-2 BOARD CN003
CN006 (BLK)
1 RF V OUT WHT
2 RF V OUT (G) BLK
TO RF MODULATOR CN102
V LINE
CN008 (WHT)
5 JOG IN PNK
4 V. MUTE YEL
3 PB + DUB ORG
2 O. REC RED
1 REC. PAUSE BRN
TO SS-11 BOARD (2/3) CN614
D012 1SS133 SWITCHING
D013 1SS133 SWITCHING
IC015 CX864 MOD, DEMOD
AGC AMP
DET
COMP
LIM
AMP
MOD
DEMOD
IC014 TA7060AP LIMITER
D014 1SS133 LIMITER
D015 1SS133 LIMITER
D020 1SS133 SWITCHING
SW001 PCM SWITCH
D018 1SS133 SWITCHING
IC016 BX1033 DE-EMPHASIS-1
EQ
IC017 BX1034 DE-EMPHASIS-2
N.L
IC018 BX1032 PRE-EMPHASIS
D021 1SS133 SWITCHING
3 STATE LOGIC
IC019 CX868 NOISE CANCELLER
Q023 2SC2785 INVERTER
IC020 CX7926 TSG
RST CTL 2
DIV4 1/8
DIV3 1/39
BUF
DIV1 1/2
DIV2 1/142
V-PLA
H-PLA
H+V
RST CTL 1
Q027 2SA1175 BUFFER
Q026 2SA1175 SWITCHING
IC021 TC4053BP SWITCHING
D019 1SS133 CLAMP
Q024 2SC2785 BUFFER
Q025 2SC2785 BUFFER
Q013 2SC2785 SWITCHING
Q014 2SC2785 BUFFER
Q016 2SC403SP BUFFER
D016 1SS133 SWITCHING
D017 1SS133 SWITCHING
TP-1
TP-2
Q015 2SC2785 SWITCHING
Q017 2SC2785 SWITCHING
Q018 2SA773 SWITCHING
Q019 2SC2785 SWITCHING
Q020 2SC2785 SWITCHING
Q021 2SC2785 SWITCHING
Q022 2SC2785 LOW PASS FILTER

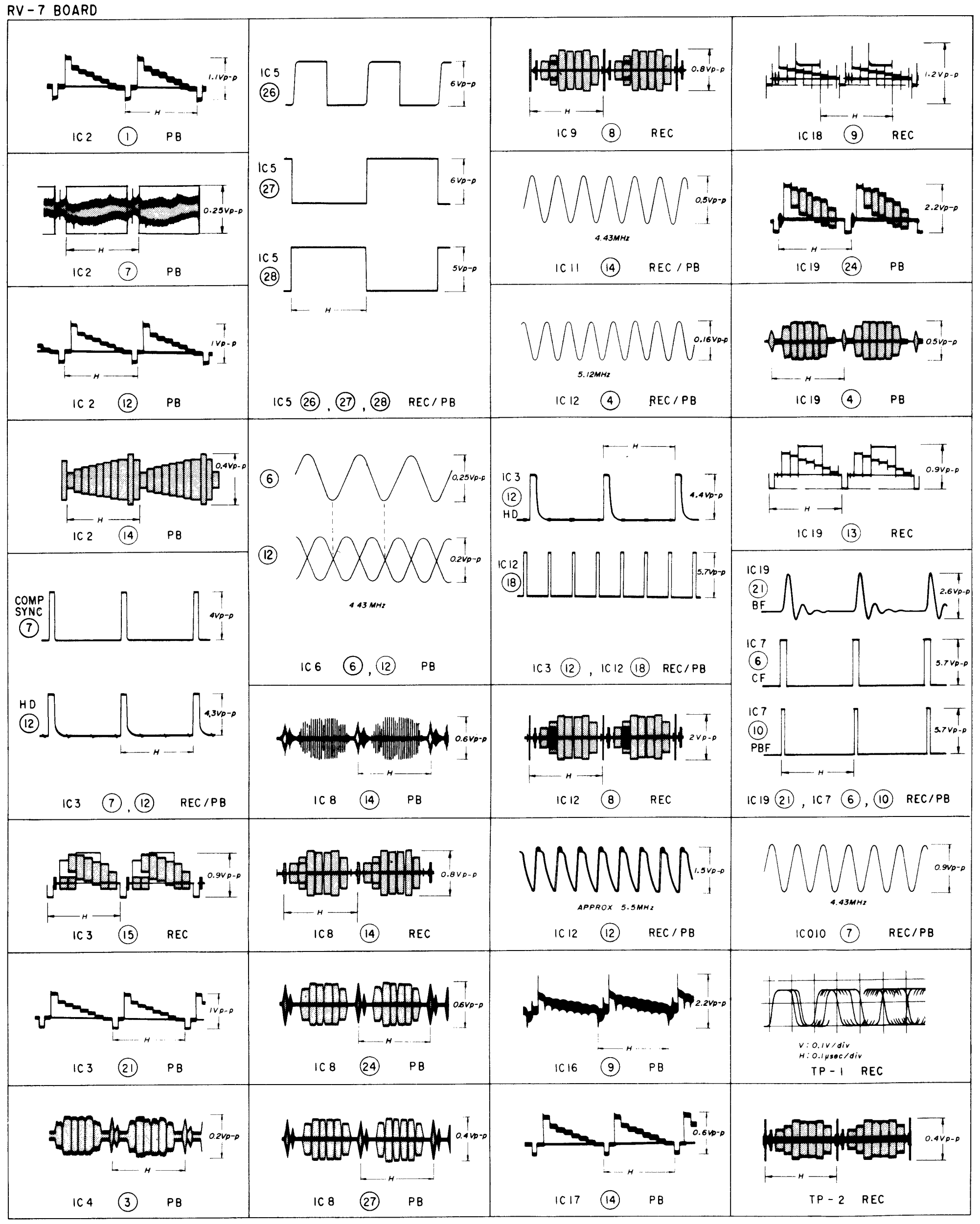
3-14. PRINTED WIRING BOARD – *Ref. No. 1000 series* –

– Conductor Side –

	A	B	C	D	E	
Q, IC	05, IC08, 09, 10, 11, 12, IC12, 14, 13	06, 08, IC09, 07, IC10, IC13, IC05, IC04, IC06, IC07, 04, IC11, 18, 19, 03	22, 15, 17, IC18, IC17, 16, IC16, IC14, IC02, IC15	01, 02, IC19, 20, 21, IC21, 27, 23, 26, IC03, 25, IC20, 24, IC01		Q, IC
D		11, 22, 12, 13, 09, 08, 10	15,14, 17	07,06, 20, 16, 23, 21, 18, 05,04, 03,02,01, 19		D
ADJ	RV012, RV013, LV001, RV011, RV014	RV010, RV015, RV006, RV008, RV005, CV001, RV009	RV007, RV025, RV022, RV023, RV019, RV024, RV021, RV001, RV020, RV017, RV016	RV018, RV004, RV003, RV002		ADJ
TP			3, 1, 2			TP


RV-7
1-607-780-13
C BLOCK
JOG BLOCK
Y BLOCK
JOG BAL
PLL FO
PHASE ADJ
ACC
PIBF LEVEL
DARK CLIP
WHITE CLIP
DELAY SIG AGC
CARRIER SET
PEAK AGC
SYNC AGC
DEV
SAR·BAL
BURST FLAG
COMB
Y REC
EXP
1/2fH
PB·LEVEL
OFFSET
AFC
C.REC·CURR
DOC LEV
VIDEO OUT
VIDEO IN
AUDIO OUT
AUDIO IN
R
L
DIN CON
CN01
ON PCM OFF
SW001
RV026
TP1
TP2
TP3
F001 T500mA
CN001
CN002
CN003
CN004
CN005
CN006
CN007
CN008
CN009
CN010
DL001
DL002
X001
CF001
CF002
CF003
BPF001
LPF001
T001
LV001
CV001

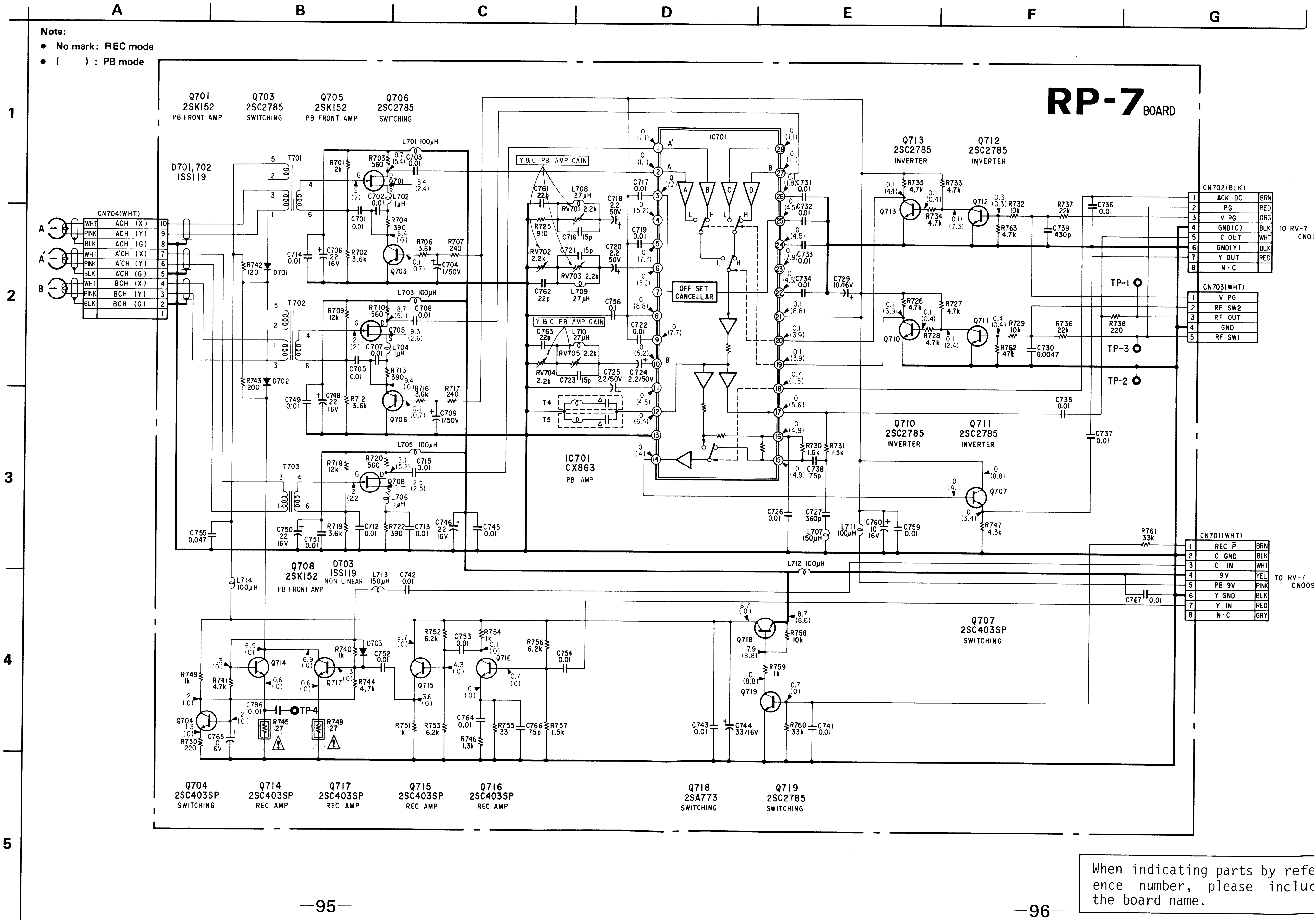
RV-7 BOARD



3-15. SCHEMATIC DIAGRAM *– Ref. No. 1700 series –*

Note:

- No mark: REC mode
- ( ) : PB mode


A
B
C
D
E
F
G
1
2
3
4
5
RP-7 BOARD
Q701 2SK152 PB FRONT AMP
Q703 2SC2785 SWITCHING
Q705 2SK152 PB FRONT AMP
Q706 2SC2785 SWITCHING
D701, 702 1SS119
T701
T702
T703
L701 100μH
L703 100μH
L705 100μH
Q708 2SK152 PB FRONT AMP
D703 1SS119 NON LINEAR
L713 150μH
C742 0.01
L714 100μH
CN704(WHT)
WHT ACH (X) 10
PINK ACH (Y) 9
BLK ACH (G) 8
WHT A'CH (X) 7
PINK A'CH (Y) 6
BLK A'CH (G) 5
WHT BCH (X) 4
PINK BCH (Y) 3
BLK BCH (G) 2
1
A
A'
B
Y & C PB AMP GAIN
RV701 2.2k
RV702 2.2k
RV703 2.2k
RV704 2.2k
RV705 2.2k
T4
T5
IC701
IC701 CX863 PB AMP
OFF SET CANCELLAR
Q713 2SC2785 INVERTER
Q712 2SC2785 INVERTER
Q710 2SC2785 INVERTER
Q711 2SC2785 INVERTER
Q707
CN702(BLK)
1 ACK DC BRN
2 PG RED
3 V PG ORG
4 GND(C) BLK
5 C OUT WHT
6 GND(Y) BLK
7 Y OUT RED
8 N・C
TO RV-7 BOARD CN010
CN703(WHT)
1 V PG
2 RF SW2
3 RF OUT
4 GND
5 RF SW1
TP-1
TP-2
TP-3
TP-4
CN701(WHT)
1 REC P BRN
2 C GND BLK
3 C IN WHT
4 9V YEL
5 PB 9V PINK
6 Y GND BLK
7 Y IN RED
8 N・C GRY
TO RV-7 BOARD CN009
L712 100μH
Q707 2SC403SP SWITCHING
Q704 2SC403SP SWITCHING
Q714 2SC403SP REC AMP
Q717 2SC403SP REC AMP
Q715 2SC403SP REC AMP
Q716 2SC403SP REC AMP
Q718 2SA773 SWITCHING
Q719 2SC2785 SWITCHING

When indicating parts by reference number, please include the board name.

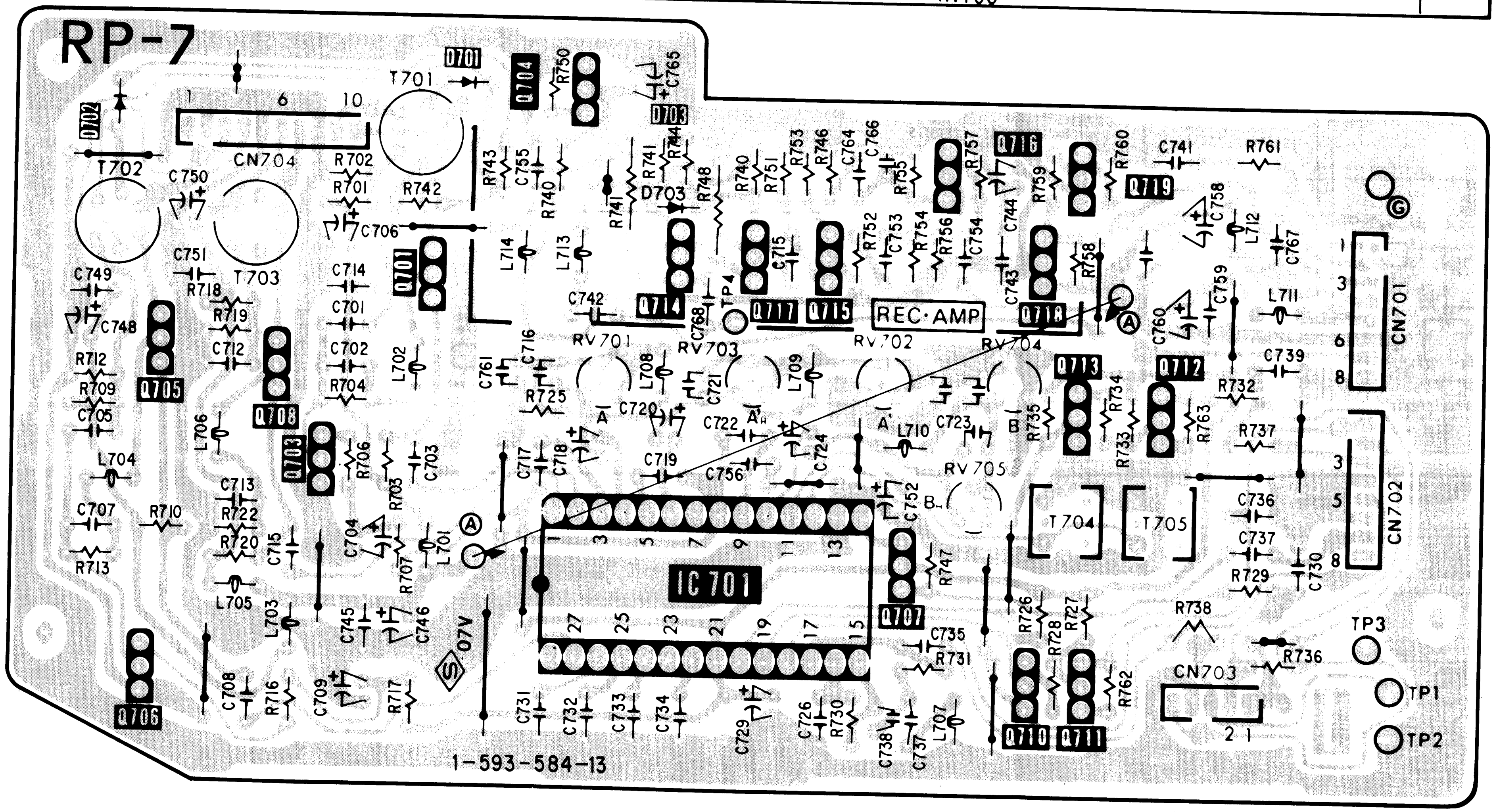
RP-7 **RP-7** [VIDEO]

3-16. PRINTED WIRING BOARD – *Ref. No. 1700 series* –

– Conductor Side –

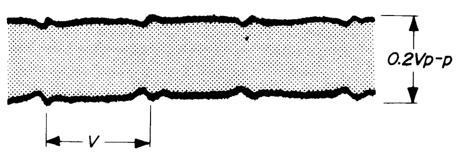
– RP-7 Board –

Q·IC	706 705 708 703 701 704 714 IC701 713 715 707 716 718 710 719 713 711 712
D	702 701 703
TP·ADJ	RV701 RV703 RV702 RV705 RV704 3 2

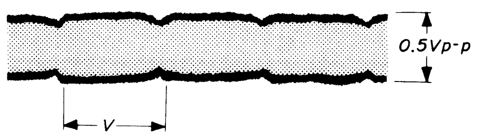


A
B
C
D
E
F
G
1
2
3
4
5
RP-7
T701
T702
T703
T704
T705
CN704
CN701
CN702
CN703
IC701
REC·AMP
D701
D702
D703
Q701
Q703
Q704
Q705
Q706
Q707
Q708
Q710
Q711
Q712
Q713
Q714
Q715
Q716
Q717
Q718
Q719
RV701
RV702
RV703
RV704
RV705
TP1
TP2
TP3
TP4
Ⓐ
Ⓖ
1-593-584-13

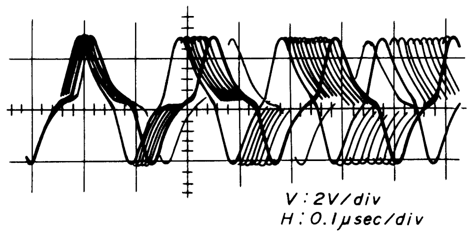
RP-7 BOARD



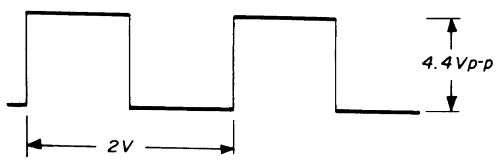
IC701 ⑭ PB



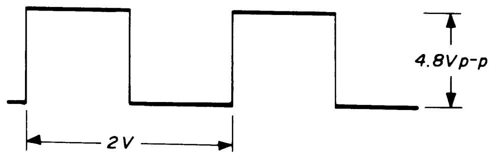
IC701 ⑰ PB



Q714 C REC



CN702 ② REC/PB RF SW PULSE



CN702 ③ REC/PB

MEMO

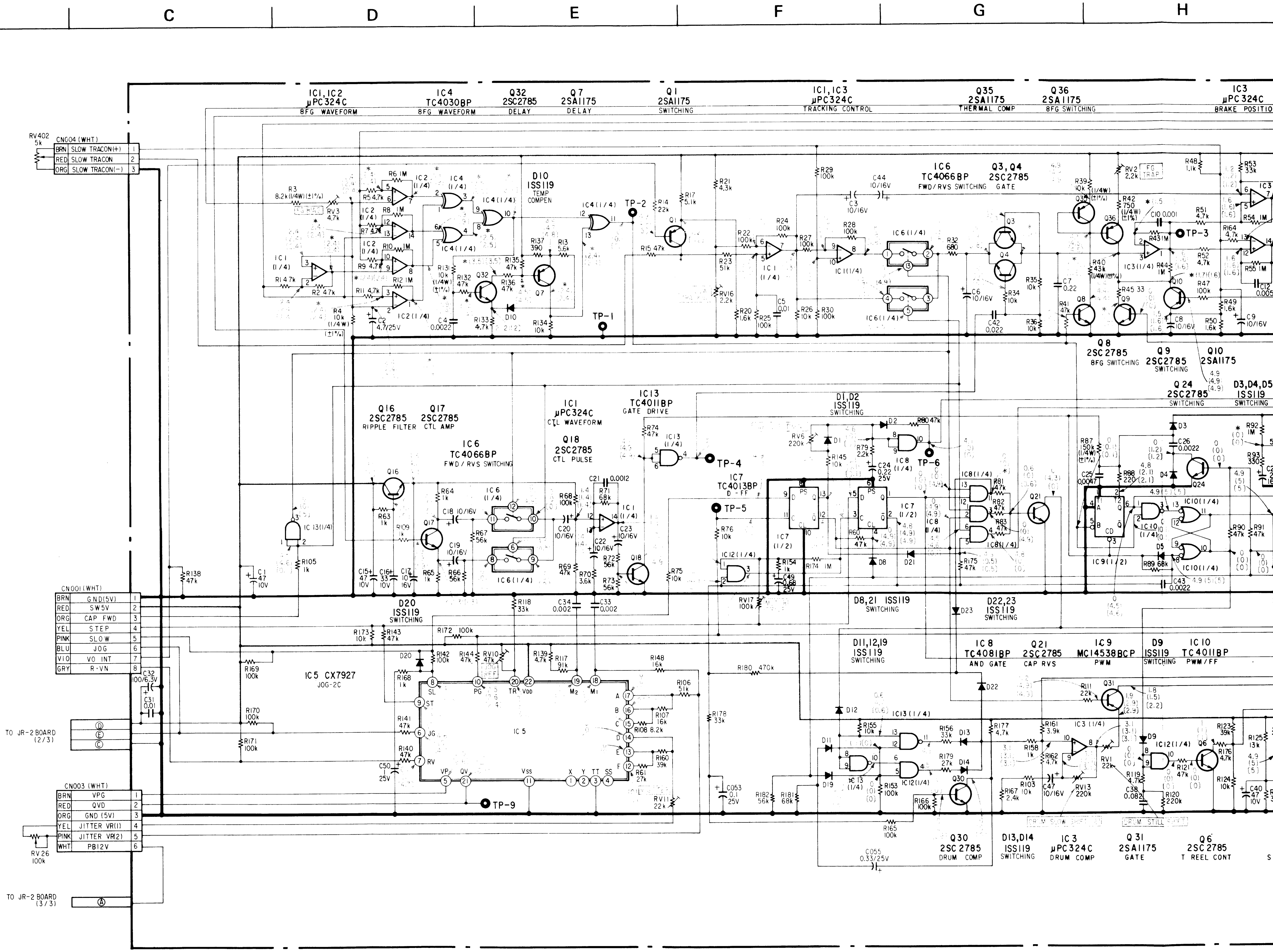
JR-2(1/3) (VARIABLE SPEED PLAYBACK, REMOCON, AMOUNT OF TAPE REMAINING, PILOT ID)

3-17. SCHEMATIC DIAGRAM – *Ref. No. JR-2 BOARD (1/3): 7000 series* –

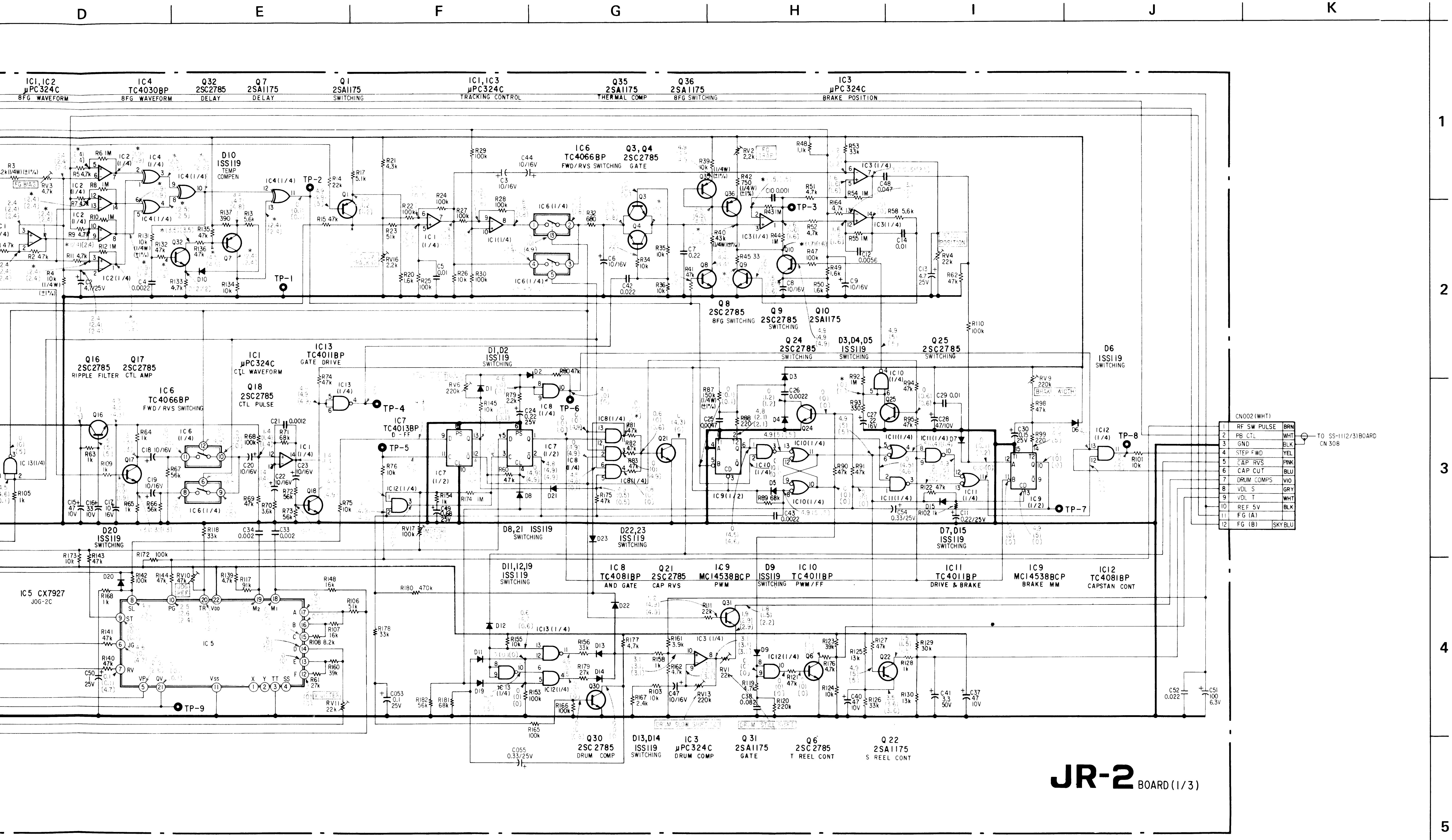
Note:

- No mark: PB mode
- ( ) : STILL mode
- [ ] : x1 REVERSE mode
- Marked * is not able to measure the voltage of its position.

When indicating parts by reference number, please include the board name.



A
B
C
D
E
F
G
H
1
2
3
4
5
IC1, IC2 μPC324C 8FG WAVEFORM
IC4 TC4030BP 8FG WAVEFORM
Q32 2SC2785 DELAY
Q7 2SA1175 DELAY
Q1 2SA1175 SWITCHING
IC1, IC3 μPC324C TRACKING CONTROL
Q35 2SA1175 THERMAL COMP
Q36 2SA1175 8FG SWITCHING
IC3 μPC324C BRAKE POSITION
RV402 5k
CN004 (WHT)
BRN SLOW TRACON(+) 1
RED SLOW TRACON 2
ORG SLOW TRACON(–) 3
D10 1SS119 TEMP COMPEN
TP-1
TP-2
TP-3
TP-4
TP-5
TP-6
TP-9
IC6 TC4066BP FWD/RVS SWITCHING
Q3, Q4 2SC2785 GATE
Q8 2SC2785 8FG SWITCHING
Q9 2SC2785 SWITCHING
Q10 2SA1175
Q24 2SC2785 SWITCHING
D3, D4, D5 1SS119 SWITCHING
Q16 2SC2785 RIPPLE FILTER
Q17 2SC2785 CTL AMP
IC6 TC4066BP FWD / RVS SWITCHING
IC1 μPC324C CTL WAVEFORM
Q18 2SC2785 CTL PULSE
IC13 TC4011BP GATE DRIVE
D1, D2 1SS119 SWITCHING
IC7 TC4013BP D-FF
CN001 (WHT)
BRN GND(5V) 1
RED SW5V 2
ORG CAP FWD 3
YEL STEP 4
PINK SLOW 5
BLU JOG 6
VIO VO INT 7
GRY R·VN 8
D20 1SS119 SWITCHING
D8, 21 1SS119 SWITCHING
D22, 23 1SS119 SWITCHING
IC5 CX7927 JOG-2C
D11, 12, 19 1SS119 SWITCHING
IC8 TC4081BP AND GATE
Q21 2SC2785 CAP RVS
IC9 MC14538BCP PWM
D9 1SS119 SWITCHING
IC10 TC4011BP PWM / FF
TO JR-2 BOARD (2/3)
Ⓓ
Ⓔ
Ⓒ
CN003 (WHT)
BRN VPG 1
RED QVD 2
ORG GND (5V) 3
YEL JITTER VR(1) 4
PINK JITTER VR(2) 5
WHT PB12V 6
RV26 100k
TO JR-2 BOARD (3/3)
Ⓐ
Q30 2SC2785 DRUM COMP
D13, D14 1SS119 SWITCHING
IC3 μPC324C DRUM COMP
Q31 2SA1175 GATE
Q6 2SC2785 T REEL CONT


D
E
F
G
H
I
J
K
1
2
3
4
5
IC1, IC2 μPC324C 8FG WAVEFORM
IC4 TC4030BP 8FG WAVEFORM
Q32 2SC2785 DELAY
Q7 2SA1175 DELAY
Q1 2SA1175 SWITCHING
IC1, IC3 μPC324C TRACKING CONTROL
Q35 2SA1175 THERMAL COMP
Q36 2SA1175 8FG SWITCHING
IC3 μPC324C BRAKE POSITION
D10 1SS119 TEMP COMPEN
IC6 TC4066BP FWD/RVS SWITCHING
Q3, Q4 2SC2785 GATE
Q8 2SC2785 8FG SWITCHING
Q9 2SC2785 SWITCHING
Q10 2SA1175
TP-1
TP-2
TP-3
TP-4
TP-5
TP-6
TP-7
TP-8
TP-9
Q16 2SC2785 RIPPLE FILTER
Q17 2SC2785 CTL AMP
IC6 TC4066BP FWD/RVS SWITCHING
IC1 μPC324C CTL WAVEFORM
Q18 2SC2785 CTL PULSE
IC13 TC4011BP GATE DRIVE
D1, D2 1SS119 SWITCHING
IC7 TC4013BP D-FF
Q24 2SC2785 SWITCHING
D3, D4, D5 1SS119 SWITCHING
Q25 2SC2785 SWITCHING
D6 1SS119 SWITCHING
D20 1SS119 SWITCHING
D8, 21 1SS119 SWITCHING
D22, 23 1SS119 SWITCHING
D7, D15 1SS119 SWITCHING
IC5 CX7927 JOG-2C
D11, 12, 19 1SS119 SWITCHING
IC8 TC4081BP AND GATE
Q21 2SC2785 CAP RVS
IC9 MC14538BCP PWM
D9 1SS119 SWITCHING
IC10 TC4011BP PWM/FF
IC11 TC4011BP DRIVE & BRAKE
IC9 MC14538BCP BRAKE MM
IC12 TC4081BP CAPSTAN CONT
Q30 2SC2785 DRUM COMP
D13, D14 1SS119 SWITCHING
IC3 μPC324C DRUM COMP
Q31 2SA1175 GATE
Q6 2SC2785 T REEL CONT
Q22 2SA1175 S REEL CONT
CN002 (WHT)
1 RF SW PULSE BRN
2 PB CTL WHT
3 GND BLK
4 STEP FWD YEL
5 CAP RVS PINK
6 CAP CUT BLU
7 DRUM COMPS VIO
8 VDL S GRY
9 VDL T WHT
10 REF 5V BLK
11 FG (A)
12 FG (B) SKY BLU
TO SS-11 (2/3) BOARD CN 308
FG BIAS
FG TRAP
BRAKE POSITION
BRAKE WIDTH
DRUM SLOW SHIFT
DRUM STILL SHIFT

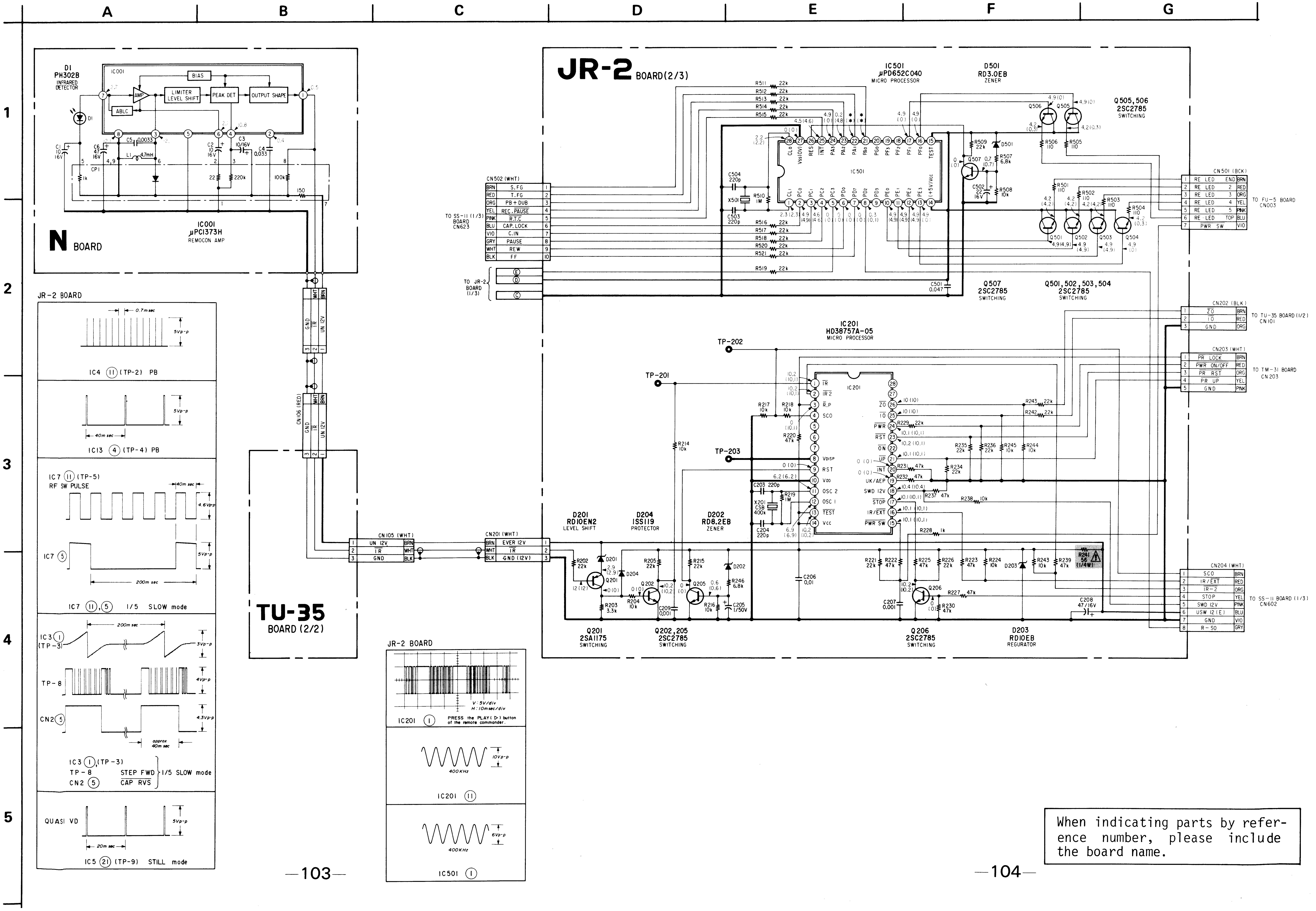
JR-2 BOARD (1/3)

3-18. SCHEMATIC DIAGRAM

– Ref. No. JR-2 BOARD (2/3): 7200 series, N BOARD 100 series –

Note:
- N board voltage: E-E mode

JR-2 (2/2) TU-35 (2/2) N (VARIABLE SPEED PLAYBACK, REMOCON, AMOUNT OF TAPE REMAINING, PILOT ID)



A
B
C
D
E
F
G
1
2
3
4
5
N BOARD
D1 PH302B INFRARED DETECTOR
IC001
BIAS
AMP
LIMITER LEVEL SHIFT
PEAK DET
OUTPUT SHAPE
ABLC
IC001 μPC1373H REMOCON AMP
JR-2 BOARD(2/3)
IC501 μPD652C040 MICRO PROCESSOR
D501 RD3.0EB ZENER
Q505,506 2SC2785 SWITCHING
Q507 2SC2785 SWITCHING
Q501,502,503,504 2SC2785 SWITCHING
CN502 (WHT)
S.FG
T.FG
PB+DUB
REC.PAUSE
R.T.C
CAP.LOCK
C.IN
PAUSE
REW
FF
TO SS-11 (1/3) BOARD CN623
TO JR-2 BOARD (1/3)
CN501 (BCK)
RE LED END
RE LED 2
RE LED 3
RE LED 4
RE LED 5
RE LED TOP
PWR SW
TO FU-5 BOARD CN003
CN202 (BLK)
ZO
IO
GND
TO TU-35 BOARD (1/2) CN101
CN203 (WHT)
PR LOCK
PWR ON/OFF
PR RST
PR UP
GND
TO TM-31 BOARD CN203
IC201 HD38757A-05 MICRO PROCESSOR
TP-202
TP-201
TP-203
CN204 (WHT)
SCO
IR/EXT
IR-2
STOP
SWD 12V
USW 12(E)
GND
R-SO
TO SS-11 BOARD (1/3) CN602
D201 RD10EN2 LEVEL SHIFT
D204 1SS119 PROTECTOR
D202 RD8.2EB ZENER
Q201 2SA1175 SWITCHING
Q202,205 2SC2785 SWITCHING
Q206 2SC2785 SWITCHING
D203 RD10EB REGURATOR
CN105 (WHT)
UN 12V
IR
GND
CN201 (WHT)
EVER 12V
IR
GND (12V)
CN106 (RED)
TU-35 BOARD (2/2)
JR-2 BOARD
IC4 ⑪ (TP-2) PB
5Vp-p
0.7m sec
IC13 ④ (TP-4) PB
40m sec
IC7 ⑪ (TP-5) RF SW PULSE
4.6Vp-p
IC7 ⑤
200m sec
IC7 ⑪,⑤ 1/5 SLOW mode
IC3 ① (TP-3)
3Vp-p
TP-8
4Vp-p
CN2 ⑤
4.3Vp-p
approx 40m sec
IC3 ①,(TP-3)
TP-8
CN2 ⑤
STEP FWD
CAP RVS
1/5 SLOW mode
QUASI VD
20m sec
IC5 ㉑ (TP-9) STILL mode
JR-2 BOARD
V: 5V/div
H: 10msec/div
IC201 ①
PRESS the PLAY(▷) button of the remote commander.
10Vp-p
400KHz
IC201 ⑪
6Vp-p
400KHz
IC501 ①

When indicating parts by reference number, please include the board name.

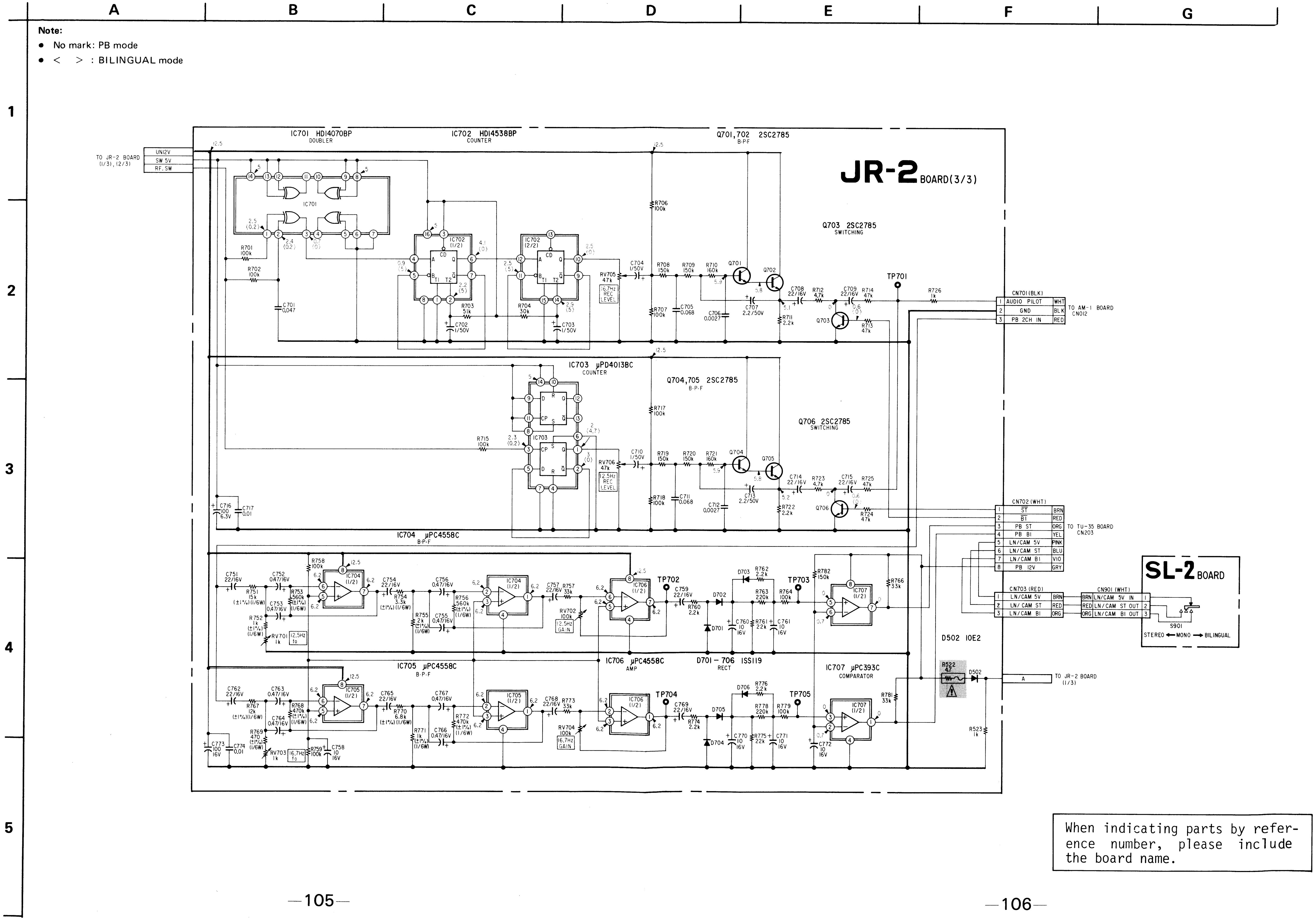
3-19. SCHEMATIC DIAGRAM

– Ref. No. JR-2 BOARD (3/3): 7700 series, SL-2 BOARD 7900 series –

JR-2(3/3) (VARIABLE SPEED PLAYBACK, REMOCON, AMOUNT OF TAPE REMAINING, PILOT ID) **SL-2** [SW]

Note:

- No mark: PB mode
- < > : BILINGUAL mode



A
B
C
D
E
F
G
1
2
3
4
5
JR-2 BOARD(3/3)
TO JR-2 BOARD (1/3), (2/3)
UNI2V
SW 5V
RF. SW
IC701 HD14070BP DOUBLER
IC702 HD14538BP COUNTER
IC703 μPD4013BC COUNTER
Q701,702 2SC2785 B·P·F
Q703 2SC2785 SWITCHING
Q704,705 2SC2785 B·P·F
Q706 2SC2785 SWITCHING
RV705 47k 16.7Hz REC LEVEL
RV706 47k 12.5Hz REC LEVEL
TP701
CN701 (BLK)
1 AUDIO PILOT WHT
2 GND BLK
3 PB 2CH IN RED
TO AM-1 BOARD CN012
CN702 (WHT)
1 ST BRN
2 BI RED
3 PB ST ORG
4 PB BI YEL
5 LN/CAM 5V PINK
6 LN/CAM ST BLU
7 LN/CAM BI VIO
8 PB 12V GRY
TO TU-35 BOARD CN203
CN703 (RED)
1 LN/CAM 5V BRN
2 LN/CAM ST RED
3 LN/CAM BI ORG
SL-2 BOARD
CN901 (WHT)
BRN LN/CAM 5V IN 1
RED LN/CAM ST OUT 2
ORG LN/CAM BI OUT 3
S901
STEREO ← MONO → BILINGUAL
IC704 μPC4558C B·P·F
IC705 μPC4558C B·P·F
IC706 μPC4558C AMP
D701 – 706 1SS119 RECT
IC707 μPC393C COMPARATOR
TP702
TP703
TP704
TP705
RV701 1k 12.5Hz f0
RV702 100k 12.5Hz GAIN
RV703 1k 16.7Hz f0
RV704 100k 16.7Hz GAIN
D502 10E2
R522 4.7
R523 1k
TO JR-2 BOARD (1/3)

When indicating parts by reference number, please include the board name.

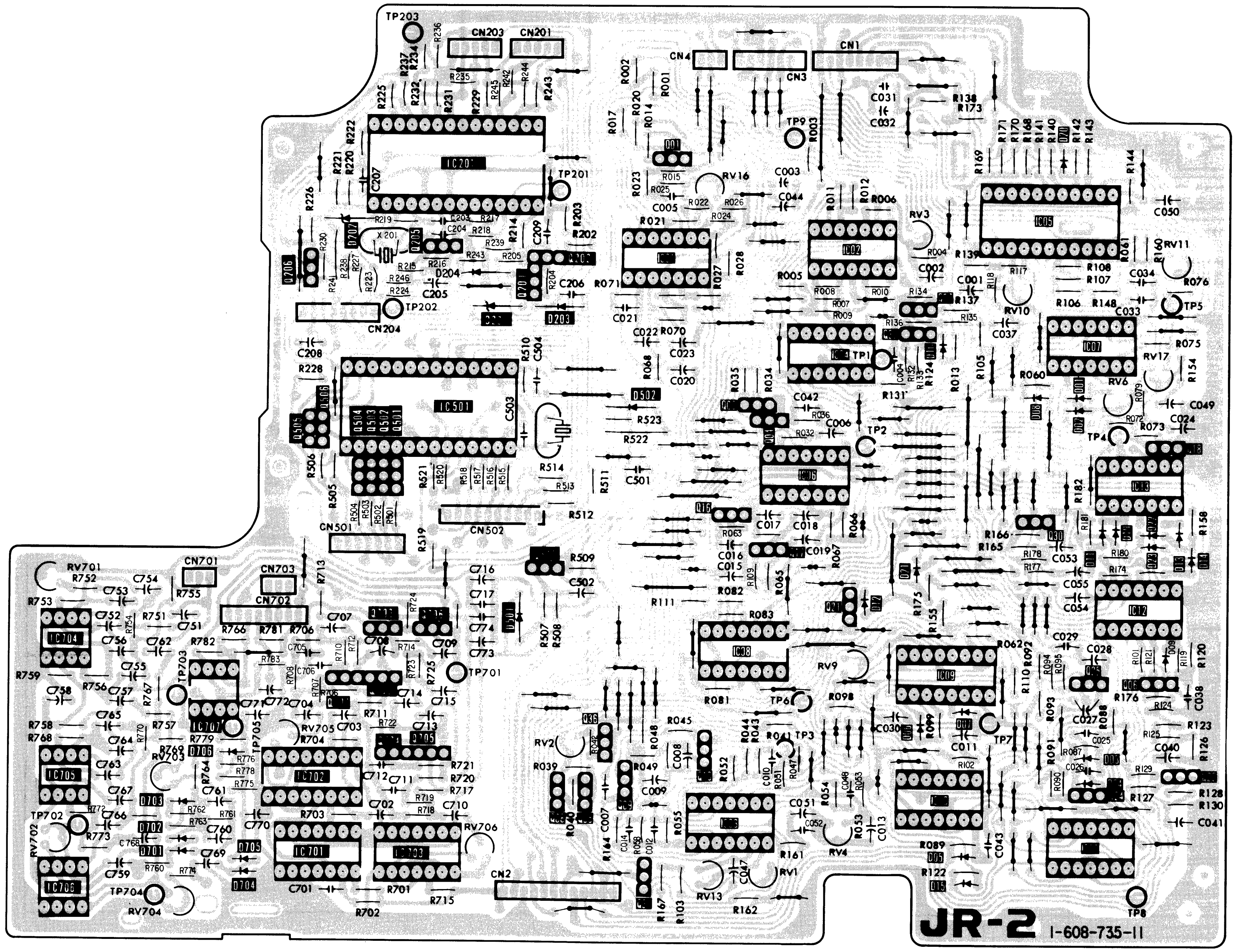
3-20. PRINTED WIRING BOARD *– Conductor Side –*

– Ref. No. JR-2 BOARD: 7000 series, N BOARD: 100 series, SL-2 BOARD: 7900 series –

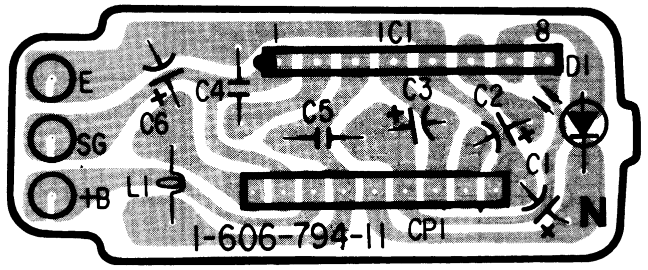
SL-2 [SW] **JR-2** **N** (VARIABLE SPEED PLAYBACK, REMOCON, AMOUNT OF TAPE REMAINING, PILOT ID)

– JR-2 Board –

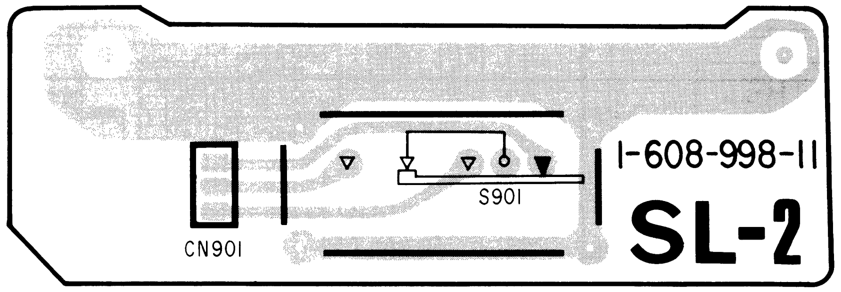
	A	B	C	D	E
Q · IC	IC704 IC705 IC706	IC707 206 505, 506 504–501 703, 706 701, 702 704, 705 IC702 IC701 205 IC501 IC703	IC201 201 202 507 08 35 36 09 31 01 IC01	03 04 IC06 16 17 IC08 10 IC03 IC02 IC04 21 07 32 IC09 IC10	IC05 30 IC07 25 24 06 IC11 18 IC13 IC12 22
D		703 702 701 706 705 704 202	204 201 501 203 502	12 21 06 10 07 05 15	08 20 01 02 11 03 04 19 22 23 09 13 14
RV · TP	RV701 TP702 RV702	TP704 RV704 TP703 RV703 TP705, RV705 TP203 TP202	TP701 RV706 TP201 RV2	RV16 RV13 RV1 TP9 TP3 TP6 RV9 RV4 TP1 TP2 RV3 TP7	RV10 RV11 TP5 RV6 RV17 TP4 TP8


JR-2 1-608-735-11
IC201
IC501
IC701
IC702
IC703
IC704
IC705
IC706
IC707
CN1
CN2
CN3
CN4
CN201
CN203
CN204
CN501
CN502
CN701
CN702
CN703
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP201
TP202
TP203
TP701
TP702
TP703
TP704
TP705
RV1
RV2
RV3
RV4
RV6
RV9
RV10
RV11
RV13
RV16
RV17
RV701
RV702
RV704
RV705
RV706

– N Board –

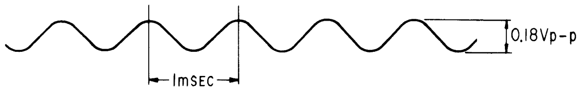

E
SG
+B
IC1
1
8
C1
C2
C3
C4
C5
C6
D1
L1
CP1
N
1-606-794-11

– SL-2 Board –

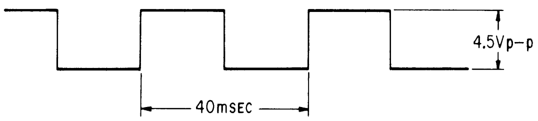

1-608-998-11
SL-2
S901
CN901

N,
ID

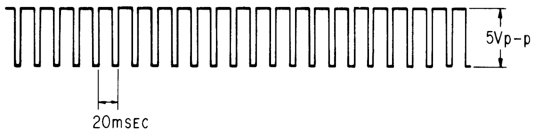
JR-2 BOARD


0.18Vp-p
1mSEC

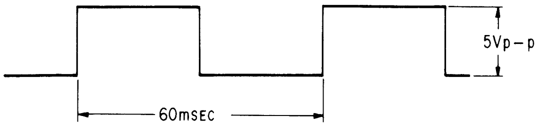
TP701


4.5Vp-p
40mSEC

IC701 ①


5Vp-p
20mSEC

IC701 ③


5Vp-p
60mSEC

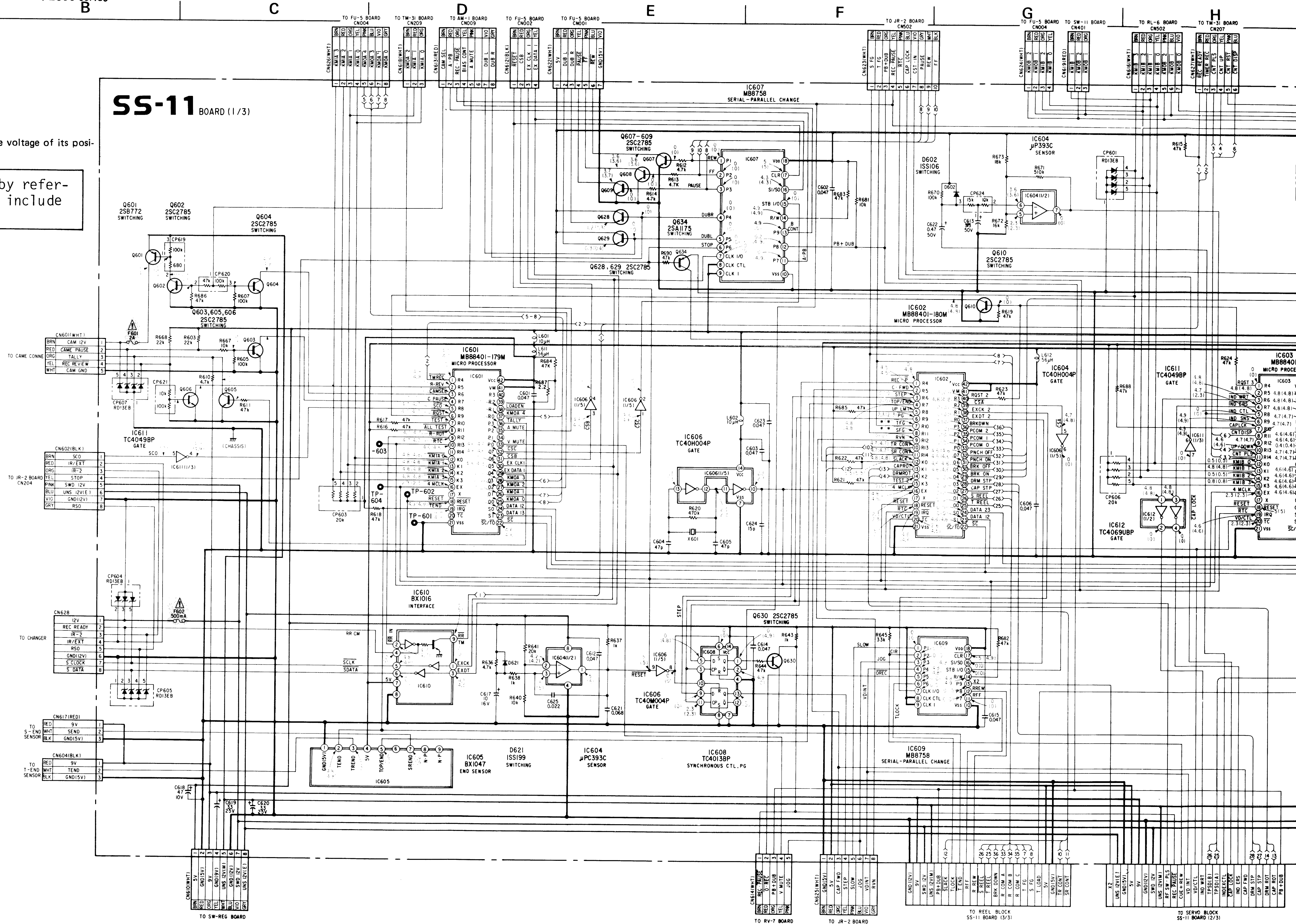
IC702 ⑩

3-21. SCHEMATIC DIAGRAM – *Ref. No. 2600 series* –

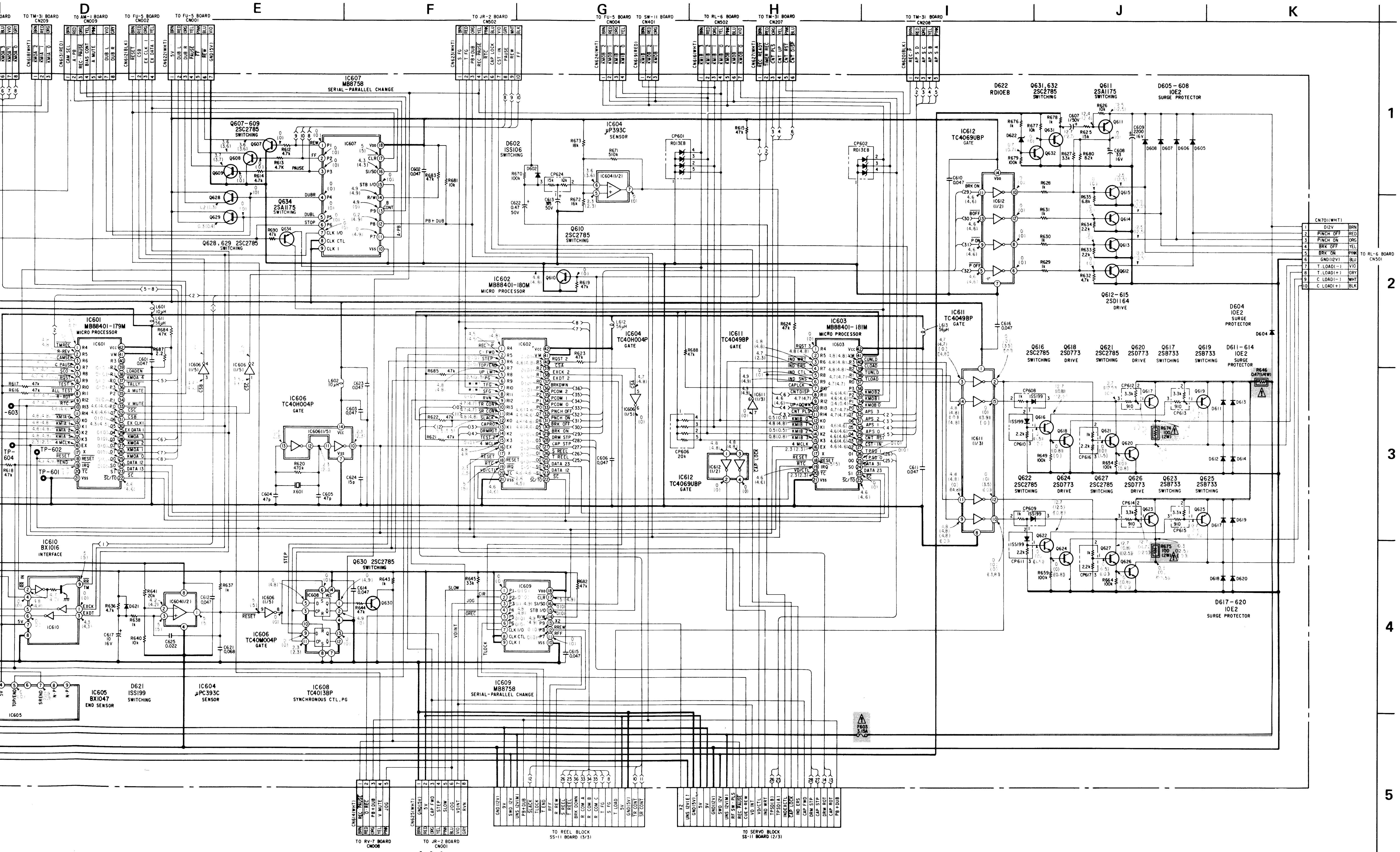
Note:

- No mark: REC mode
- ( ) : PB mode
- < > : LOADING mode
- ≪ ≫ : UNLOADING mode
- [ ] : THREADING mode
- (( )) : UNTHREADING mode
- Marked * is not able to measure the voltage of its position.

```
When indicating parts by refer-
ence number, please include
the board name.
```



A
B
C
D
E
F
G
H
1
2
3
4
5
SS-11 BOARD (1/3)
TO FU-5 BOARD CN004
TO TM-31 BOARD CN209
TO AM-1 BOARD CN009
TO FU-5 BOARD CN002
TO FU-5 BOARD CN001
TO JR-2 BOARD CN502
TO FU-5 BOARD CN004
TO SW-11 BOARD CN401
TO RL-6 BOARD CN502
TO TM-31 BOARD CN207
IC607 MB8758 SERIAL-PARALLEL CHANGE
Q607-609 2SC2785 SWITCHING
Q634 2SA1175 SWITCHING
Q628, 629 2SC2785 SWITCHING
D602 1SS106 SWITCHING
IC604 μPC393C SENSOR
Q610 2SC2785 SWITCHING
Q601 2SB772 SWITCHING
Q602 2SC2785 SWITCHING
Q604 2SC2785 SWITCHING
Q603,605,606 2SC2785 SWITCHING
IC611 TC4049BP GATE
IC601 MB88401-179M MICRO PROCESSOR
IC602 MB88401-180M MICRO PROCESSOR
IC604 TC40H004P GATE
IC606 TC40H004P GATE
IC611 TC4049BP GATE
IC612 TC4069UBP GATE
IC603 MB8840 MICRO PROCE
IC610 BX1016 INTERFACE
Q630 2SC2785 SWITCHING
IC605 BX1047 END SENSOR
D621 1SS199 SWITCHING
IC604 μPC393C SENSOR
IC608 TC4013BP SYNCHRONOUS CTL, PG
IC606 TC40H004P GATE
IC609 MB8758 SERIAL-PARALLEL CHANGE
TO CAME CONNE
TO JR-2 BOARD CN204
TO CHANGER
TO S-END SENSOR
TO T-END SENSOR
TO SW-REG BOARD
TO RV-7 BOARD CN008
TO JR-2 BOARD CN001
TO REEL BLOCK SS-11 BOARD (3/3)
TO SERVO BLOCK SS-11 BOARD (2/3)
F601 2A
F602 500mA
TP-602
TP-601
TP-604
TP-603

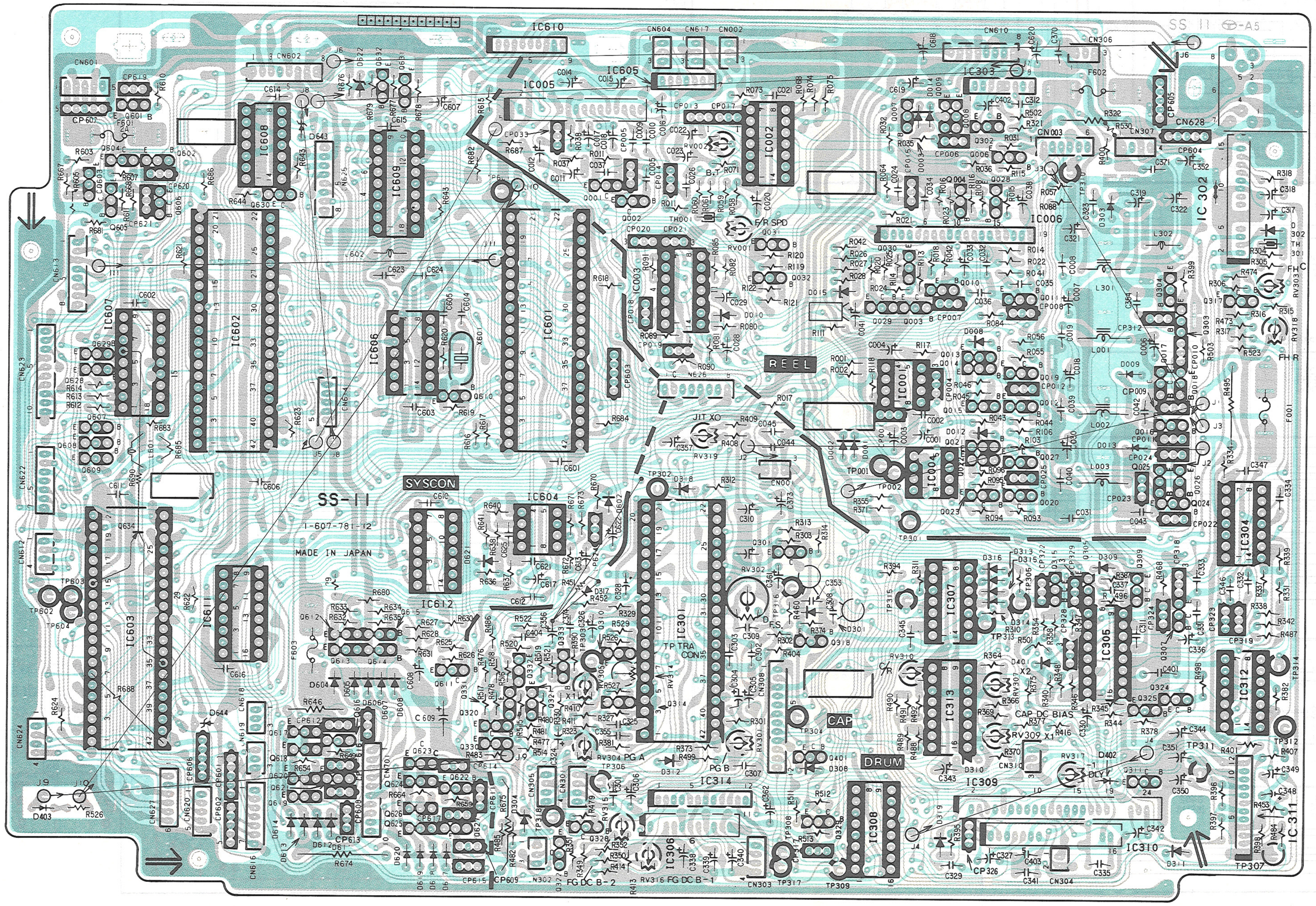

D
E
F
G
H
I
J
K
1
2
3
4
5
TO TM-31 BOARD CN209
TO AM-1 BOARD CN009
TO FU-5 BOARD CN002
TO FU-5 BOARD CN001
TO JR-2 BOARD CN502
TO FU-5 BOARD CN004
TO SW-11 BOARD CN401
TO RL-6 BOARD CN502
TO TM-31 BOARD CN207
TO TM-31 BOARD CN208
IC607 MB8758 SERIAL-PARALLEL CHANGE
Q607-609 2SC2785 SWITCHING
Q634 2SA1175 SWITCHING
Q628, 629 2SC2785 SWITCHING
D602 1SS106 SWITCHING
IC604 μPC393C SENSOR
Q610 2SC2785 SWITCHING
IC602 MB88401-180M MICRO PROCESSOR
CP601 RD13EB
CP602 RD13EB
D622 RD10EB
Q631, 632 2SC2785 SWITCHING
Q611 2SA1175 SWITCHING
D605-608 10E2 SURGE PROTECTOR
IC612 TC4069UBP GATE
Q612-615 2SD1164 DRIVE
CN701 (WHT)
D12V
PINCH OFF
PINCH ON
BRK OFF
BRK ON
GND (12V)
T. LOAD (-)
T. LOAD (+)
C. LOAD (-)
C. LOAD (+)
TO RL-6 BOARD CN501
IC601 MB88401-179M MICRO PROCESSOR
IC606 TC40H004P GATE
IC602
IC604 TC40H004P GATE
IC611 TC4049BP GATE
IC603 MB88401-181M MICRO PROCESSOR
IC612 TC4069UBP GATE
IC611 TC4049BP GATE
D604 10E2 SURGE PROTECTOR
Q616 2SC2785 SWITCHING
Q618 2SD773 DRIVE
Q621 2SC2785 SWITCHING
Q620 2SD773 DRIVE
Q617 2SB733 SWITCHING
Q619 2SB733 SWITCHING
D611-614 10E2 SURGE PROTECTOR
R646 0.47Ω (1/4W)
Q622 2SC2785 SWITCHING
Q624 2SD773 DRIVE
Q627 2SC2785 SWITCHING
Q626 2SD773 DRIVE
Q623 2SB733 SWITCHING
Q625 2SB733 SWITCHING
R674 100 1/2W
R675 100 1/2W
D617-620 10E2 SURGE PROTECTOR
IC610 BX1016 INTERFACE
Q630 2SC2785 SWITCHING
IC606 TC40H004P GATE
IC609
IC605 BX1047 END SENSOR
D621 1SS199 SWITCHING
IC604 μPC393C SENSOR
IC608 TC4013BP SYNCHRONOUS CTL, PG
IC609 MB8758 SERIAL-PARALLEL CHANGE
F603 3.15A
TP-601
TP-602
TP-604
TO RV-7 BOARD CN008
TO JR-2 BOARD CN001
TO REEL BLOCK SS-11 BOARD (3/3)
TO SERVO BLOCK SS-11 BOARD (2/3)

3-22. PRINTED WIRING BOARD – *Ref. No. 2600 series* –
– Conductor Side –

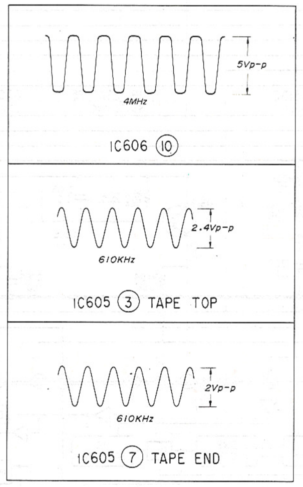
SS-11 **SS-11** [SYSTEM CONTROL]

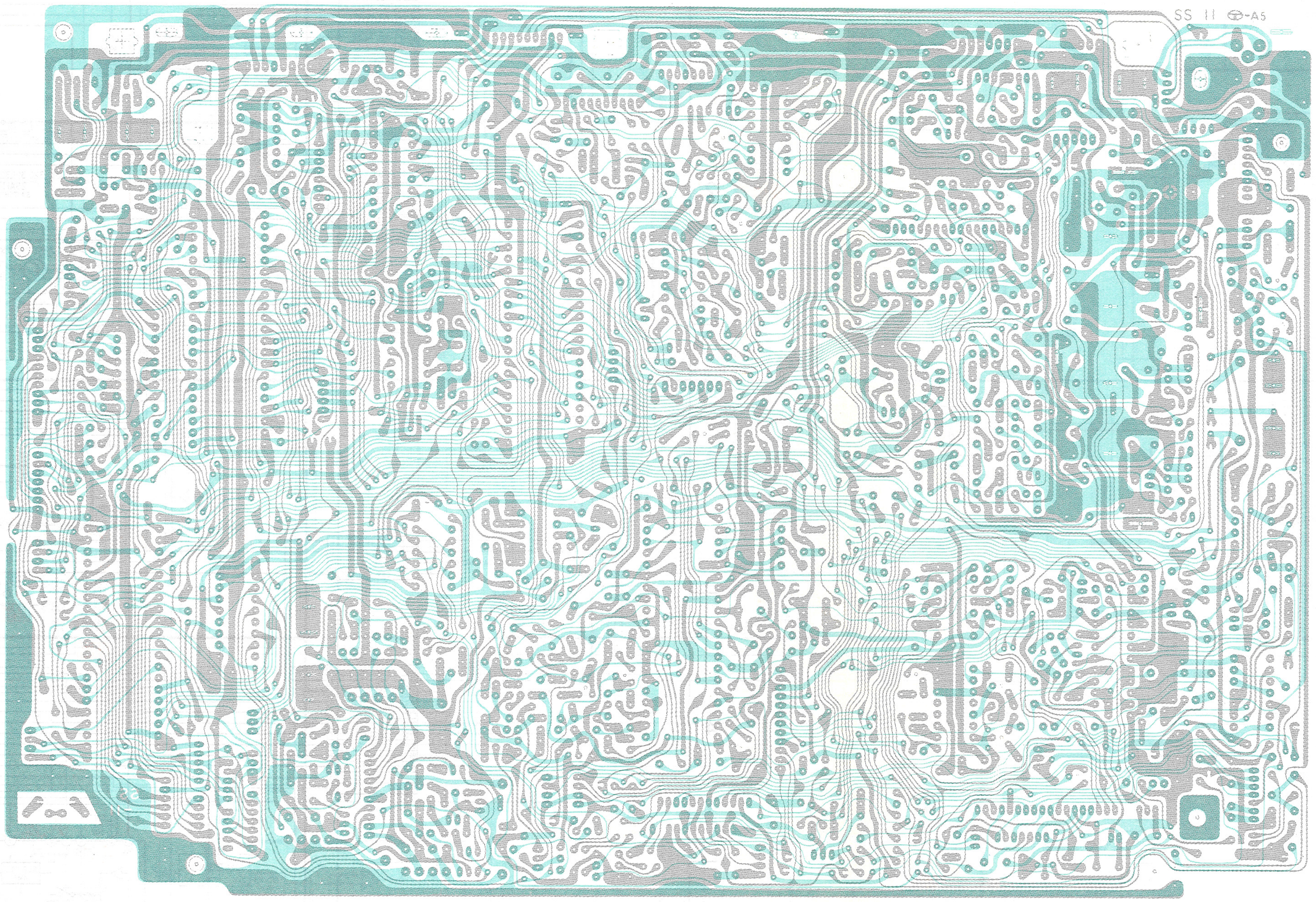
– SS-11 Board –

	A	B	C	D	E	F
Q · IC	603,605 628 607 608 609	601 604,602 606 629,IC607 IC603 634 IC608 IC602 IC611 617,616 618 620,621 619	632,631 IC609 IC606 610 IC612 612,615 613,614 611 623 624,622 626,625,627 IC610 IC601 IC604 332 331,321 333 320 330 IC005 322,328 001,002	310 314 IC605 IC003 IC301 IC314 IC306 IC002 031 032 301 318 401 329 IC308	007 IC303 009,008,302,006 004,028 IC006 030 029,003, IC001 010 013,014 015 021,022 023 IC004 IC307 IC313 011 019 012 027 020 IC309 IC310 315,305 IC305	304,303 017,018 016,026 025,024 309 307 325,324 311 IC302 317 IC304 IC312 IC311
D	403	643 611–614	622 604–608 617–620 621 304 602 317	318 312 010 301 308 015 002,001	003,014 319 008 012 313–316 401 303 009 013 309 402	311 302
RV · TP	TP602–604		TP601 TP303 RV304,305,314 TP306 TP318	RV315,316 TP302 RV002 RV001 RV319 RV302 RV301 TP316 TP304 TP308,317,309	TP001,002 TP301 TP315 RV310 RV307 RV309 TP305 RV317	TP311 RV303 RV318 TP314 TP312 TP307


SS 11 A5
IC610
IC605
IC005
IC608
IC609
IC602
IC606
IC601
IC003
IC002
IC303
IC006
IC302
IC607
IC001
IC004
IC304
IC603
IC611
IC612
IC604
IC301
IC307
IC305
IC312
IC313
IC314
IC309
IC308
IC306
IC310
IC311
SS-11
1-607-781-12
MADE IN JAPAN
SYSCON
REEL
JIT XO
F/R SPD
TP TRA CON
CAP
DRUM
CAP DC BIAS
PG A
PG B
FG DC B-2
FG DC B-1
CN601
CN602
CN604
CN617
CN002
CN610
CN306
CN628
CN003
CN307

SS-II (SYSTEM CONTROL) BOARD




SS 11 ⊖-A5

SS-11 (2/3) [CAPS & DRUM]

3-23. SCHEMATIC DIAGRAM — *Ref. No. 2000 ~ 2500 series* —

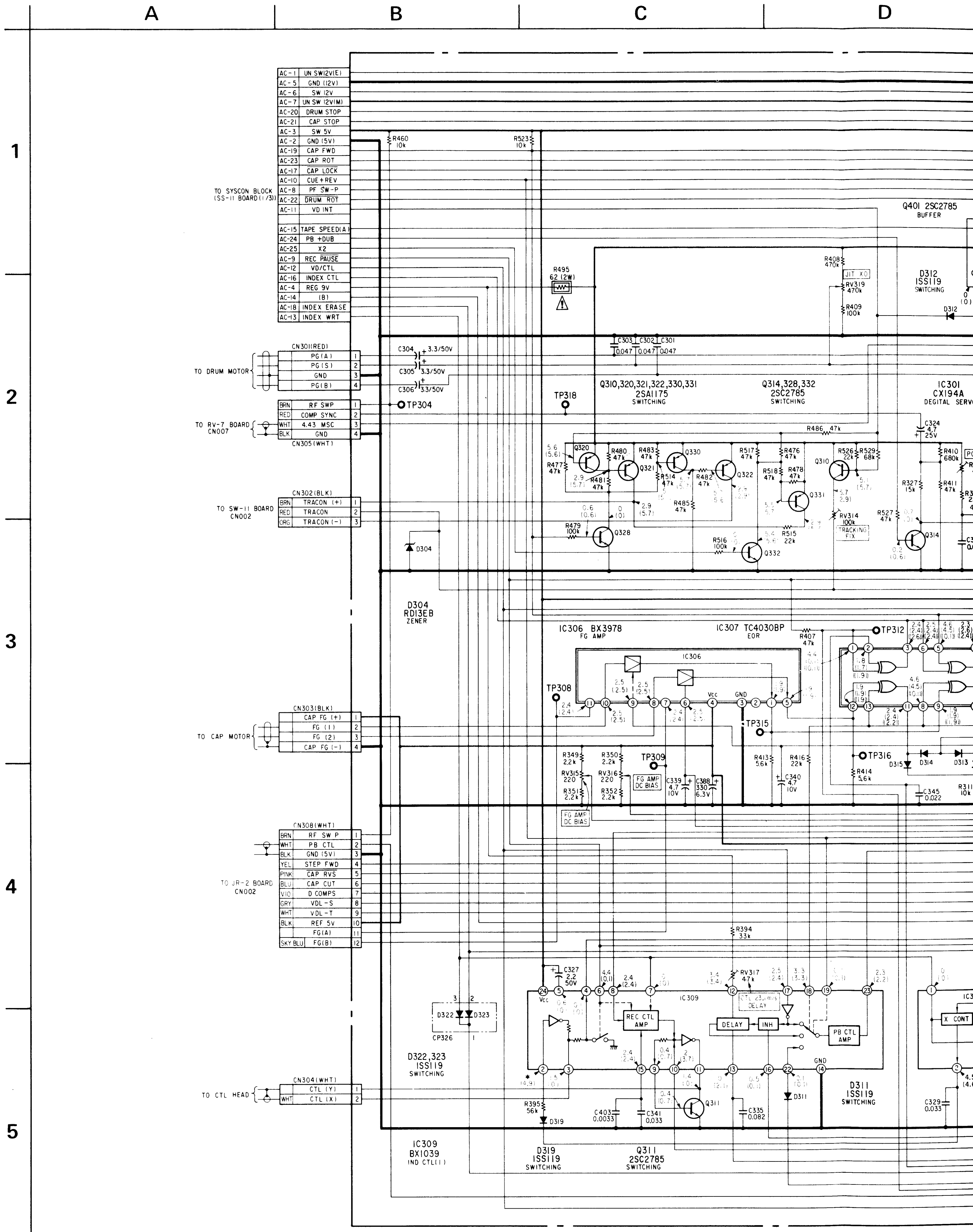
Note:

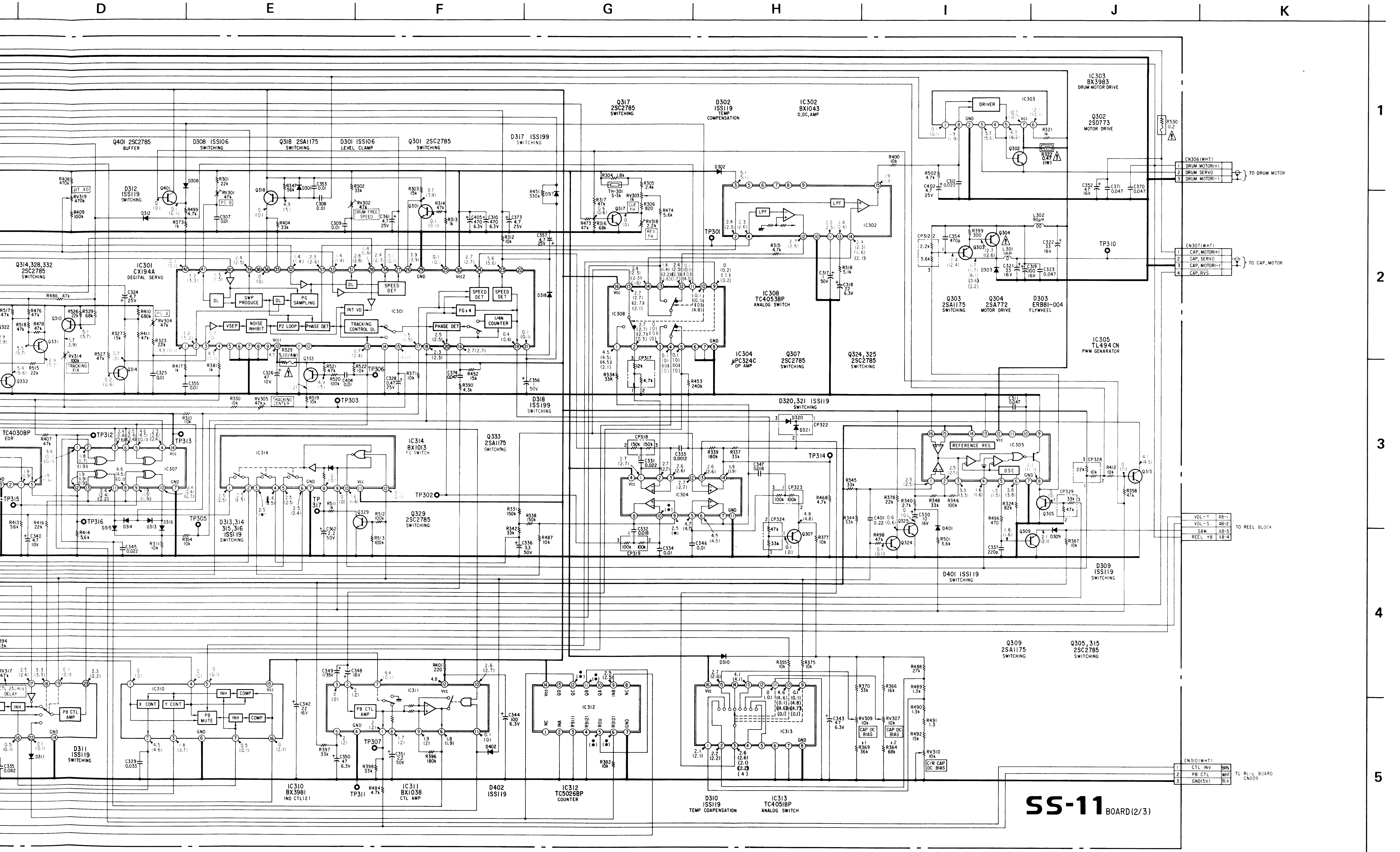
- No mark: REC mode
- ( ) : PB mode
- < > : FF mode
- [ ] : REW mode

When indicating parts by reference number, please include the board name.

Voltage table of IC006

Pin \ Mode	PB (FWD)	PB (REVERSE)	FF	REW	CUE	REV	THREADING UNTHREADING	E-E
1	0	0	0	0	4.6	4.6	4.6	4.6
2	0	0	4.6	4.6	0	0	4.6	4.6
3	0	4.6	0	4.6	0	4.6	0	4.6/0


A
B
C
D
1
2
3
4
5
TO SYSCON BLOCK (SS-11 BOARD(1/3))
TO DRUM MOTOR
CN301(RED)
TO RV-7 BOARD CN007
CN305(WHT)
TO SW-11 BOARD CN002
CN302(BLK)
TO CAP MOTOR
CN303(BLK)
TO JR-2 BOARD CN002
CN308(WHT)
TO CTL HEAD
CN304(WHT)
Q401 2SC2785 BUFFER
D312 1SS119 SWITCHING
Q310,320,321,322,330,331 2SA1175 SWITCHING
Q314,328,332 2SC2785 SWITCHING
IC301 CX194A DEGITAL SERVO
D304 RD13EB ZENER
IC306 BX3978 FG AMP
IC307 TC4030BP EOR
TP304
TP308
TP309
TP312
TP315
TP316
TP318
FG AMP DC BIAS
RV314 TRACKING FIX
IC309
REC CTL AMP
DELAY
INH
PB CTL AMP
X CONT
D322,323 1SS119 SWITCHING
D311 1SS119 SWITCHING
IC309 BX1039 (ND CTL(1))
D319 1SS119 SWITCHING
Q311 2SC2785 SWITCHING


D
E
F
G
H
I
J
K
1
2
3
4
5
Q401 2SC2785 BUFFER
D308 1SS106 SWITCHING
Q318 2SA1175 SWITCHING
D301 1SS106 LEVEL CLAMP
Q301 2SC2785 SWITCHING
D317 1SS199 SWITCHING
Q317 2SC2785 SWITCHING
D302 1SS119 TEMP COMPENSATION
IC302 BX1043 D.DC.AMP
IC303 BX3983 DRUM MOTOR DRIVE
Q302 2SD773 MOTOR DRIVE
DRIVER
D312 1SS119 SWITCHING
JIT XO
PG B
DRUM FREE SPEED
GUE FH
REV FH
TP301
LPF
Q314,328,332 2SC2785 SWITCHING
IC301 CX194A DIGITAL SERVO
SWP PRODUCE
DL
PG SAMPLING
SPEED DET
INT VD
TRACKING CONTROL DL
VSEP
NOISE INHIBIT
P2 LOOP
PHASE DET
FG×4
1/4N COUNTER
PG A
TRACKING FIX
TRACKING CENTER
TP303
TP306
D318 1SS199 SWITCHING
IC308 TC4053BP ANALOG SWITCH
IC304 μPC324C OP AMP
Q307 2SC2785 SWITCHING
Q324,325 2SC2785 SWITCHING
Q303 2SA1175 SWITCHING
Q304 2SA772 MOTOR DRIVE
D303 ERB81-004 FLYWHEEL
TP310
IC305 TL494CN PWM GENARATOR
CN306(WHT)
DRUM MOTOR(+)
DRUM SERVO
DRUM MOTOR(-)
TO DRUM MOTOR
CN307(WHT)
CAP. MOTOR(+)
CAP. SERVO
CAP. MOTOR(-)
CAP. RVS
TO CAP. MOTOR
TC4030BP EOR
TP312
TP313
IC307
TP315
TP316
IC314 BX1013 FG SWITCH
Q333 2SA1175 SWITCHING
TP302
TP305
TP317
D313,314 315,316 1SS119 SWITCHING
Q329 2SC2785 SWITCHING
D320,321 1SS119 SWITCHING
TP314
REFERENCE REG
OSC
VDL-T AB-1
VDL-S AB-2
SAW AB-3
REEL +B AB-4
TO REEL BLOCK
D401 1SS119 SWITCHING
D309 1SS119 SWITCHING
Q309 2SA1175 SWITCHING
Q305,315 2SC2785 SWITCHING
CTL 23.1ms DELAY
INH
PB CTL AMP
D311 1SS119 SWITCHING
X CONT
Y CONT
PB MUTE
COMP
IC310 BX3981 IND CTL(2)
TP307
TP311
IC311 BX1038 CTL AMP
D402 1SS119
IC312 TC5026BP COUNTER
D310 1SS119 TEMP COAPENSATION
IC313 TC4051BP ANALOG SWITCH
CAP DC BIAS
C/R CAP DC BIAS
CN310(WHT)
CTL INV BRN
PB CTL WHT
GND(5V) BLK
TO RL-6 BOARD CN009

SS-11 BOARD(2/3)

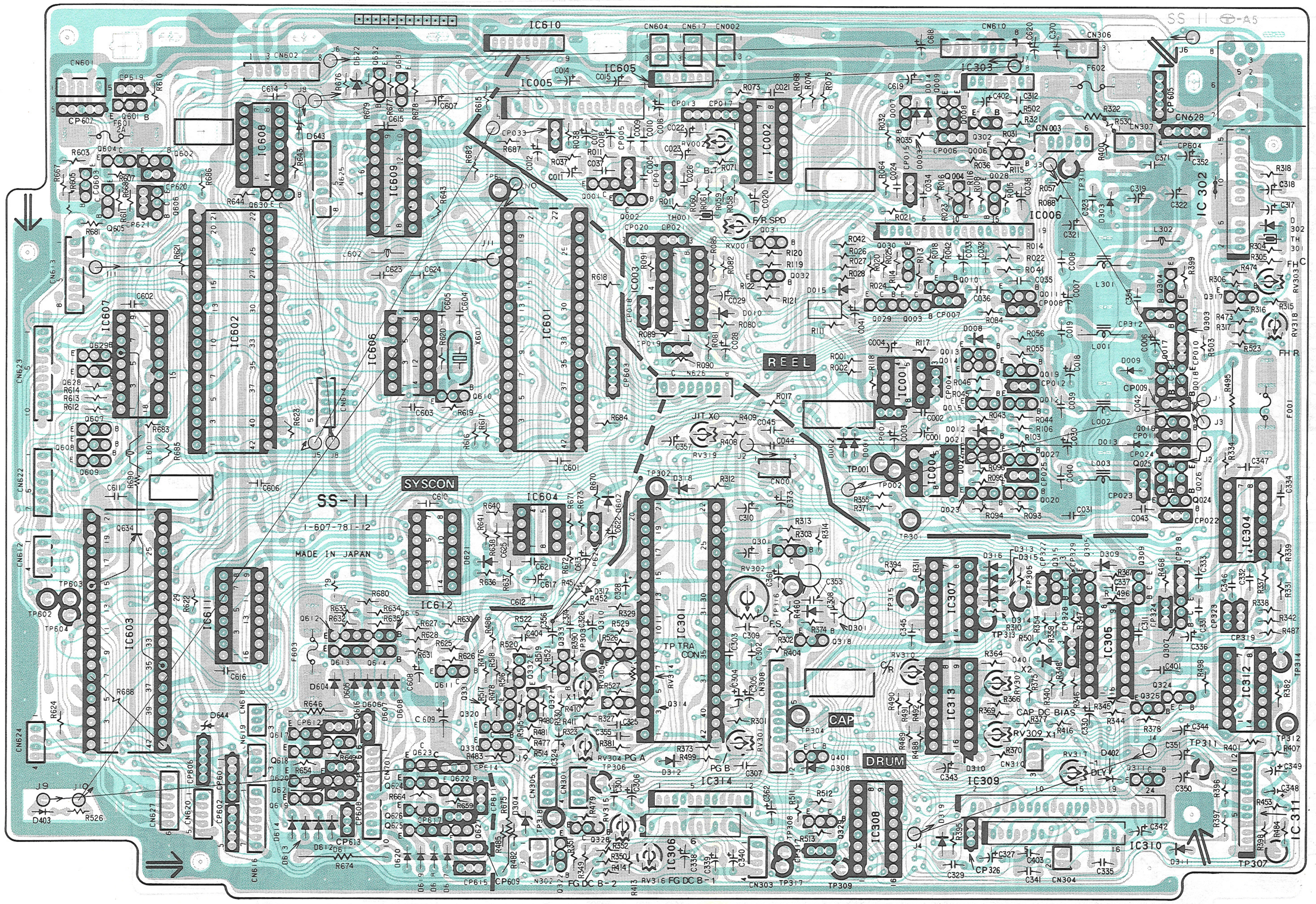
3-24. PRINTED WIRING BOARD – *Ref. No. 2000 ~ 2500 series* –

– Conductor Side –

SS-11 **SS-11** [CAPS & DRUM]

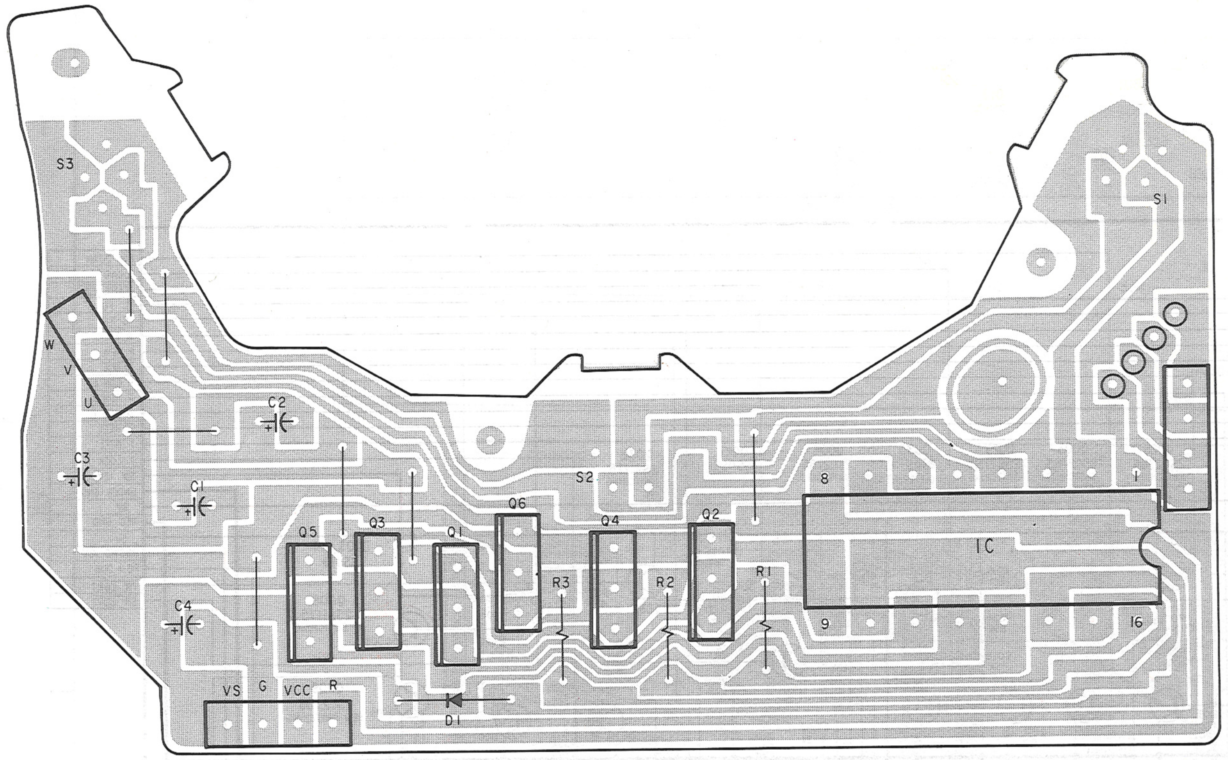
– SS-11 Board –

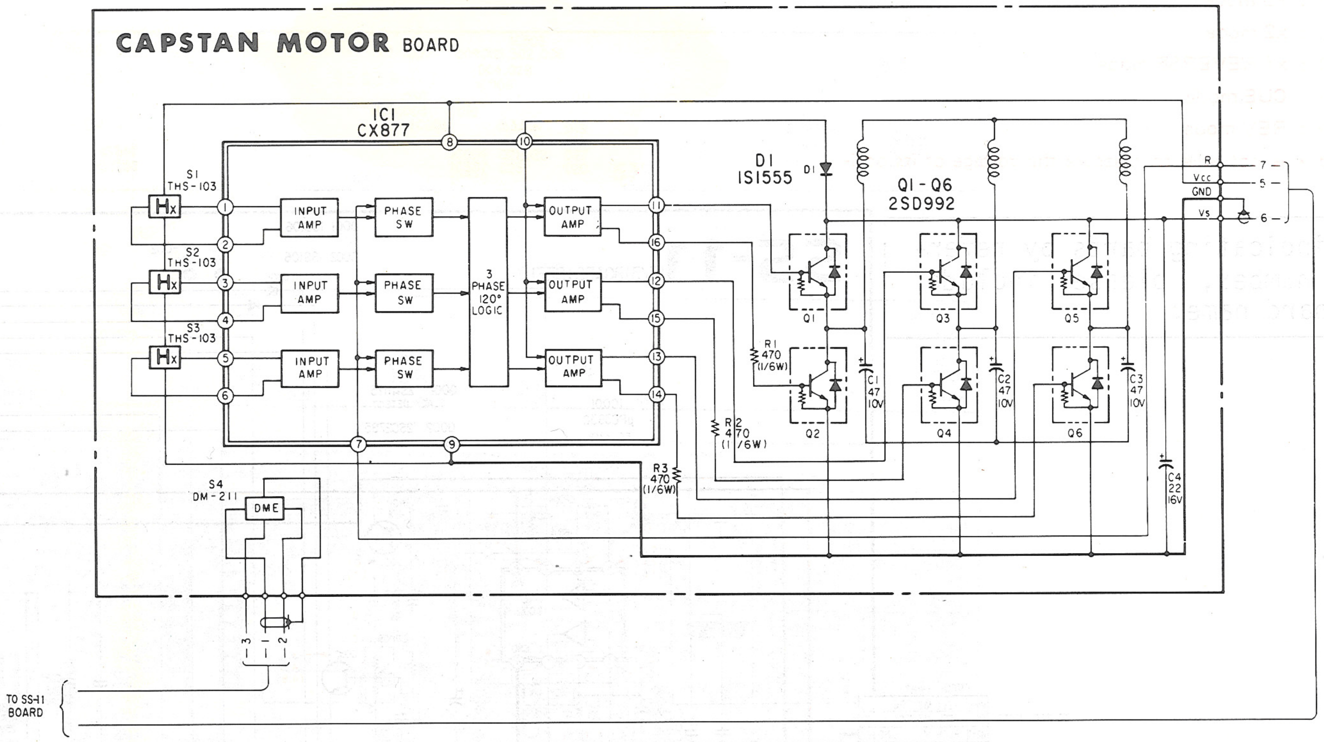
	A	B	C	D	E	F	G
Q · IC		601 604,602 603,605 606 629,IC607 628 607 608 609 634 IC603 IC608 IC602 IC611	632,631 IC609 IC606 610 IC612 612,615 613,614 617, 616 618 620,621 619 611 623 624,622 626,625,627 320 330	IC610 IC601 IC604 332 331,321 333 IC005 001,002 310 314 322,328 IC605 IC003 IC301 IC314 IC306 IC002 031 032	301 318 401 329 IC308 030 029,003, IC001 007 010 IC303 009,008,302,006 004,028 IC006 013,014 015 021,022 023 IC004 IC307 IC313 011 019 012 027 020	IC309 IC310 315,305 IC305 309 325, 324 311 304,303 017,018 016,026 025,024 307 IC302 317 IC304 IC312 IC311	
D		403	643 622 604-608 611-614 617-620 621	304 317 602 318 312 010	015 301 002,001 308 003,014 008 012 313-316 319	401 303 009 013 309 402 311 302	
RV · TP		TP602-604	TP601	TP303 RV304,305,314 TP306 TP318 RV315,316 TP302 RV319 RV002 RV001 RV302 RV301	TP316 TP304 TP308,317,309 TP001,002 TP301 TP315 RV310 RV307 RV309 TP305	RV317 TP311 RV303 RV318 TP314 TP312 TP307	


A
B
C
D
E
F
G
1
2
3
4
5
SS-11
1-607-781-12
MADE IN JAPAN
SYSCON
REEL
CAP
DRUM
SS 11 ⊕-A5
IC610
IC605
IC005
IC002
IC303
IC302
IC608
IC609
IC607
IC602
IC606
IC601
IC003
IC001
IC006
IC004
IC604
IC612
IC603
IC611
IC301
IC307
IC306
IC305
IC313
IC309
IC314
IC308
IC304
IC312
IC310
IC311
F/R SPD
JIT XO
TP TRA CON
CAP DC BIAS
FG DC B-2
FG DC B-1
PG A
PG B
FH C
FH R

3-25. CAPASTAN MOTOR SCHEMATIC DIAGRAM & PRINTED WIRING BOARD

– Ref. No. 9000 series –

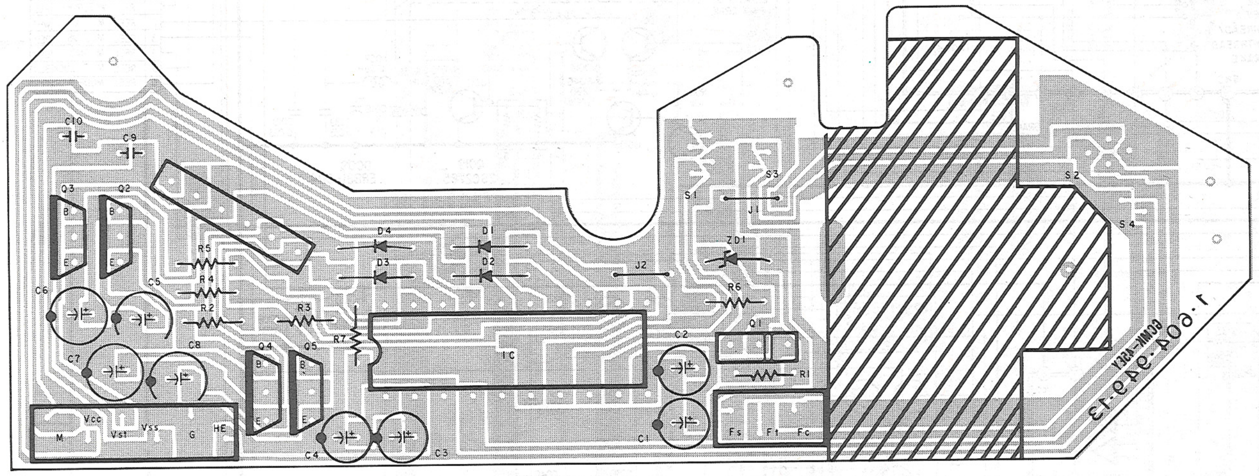

S3
S1
W
V
U
C2
C3
C1
S2
Q6
Q5
Q3
Q1
Q4
Q2
R3
R2
R1
8
IC
9
16
1
C4
VS
G
VCC
R
D1

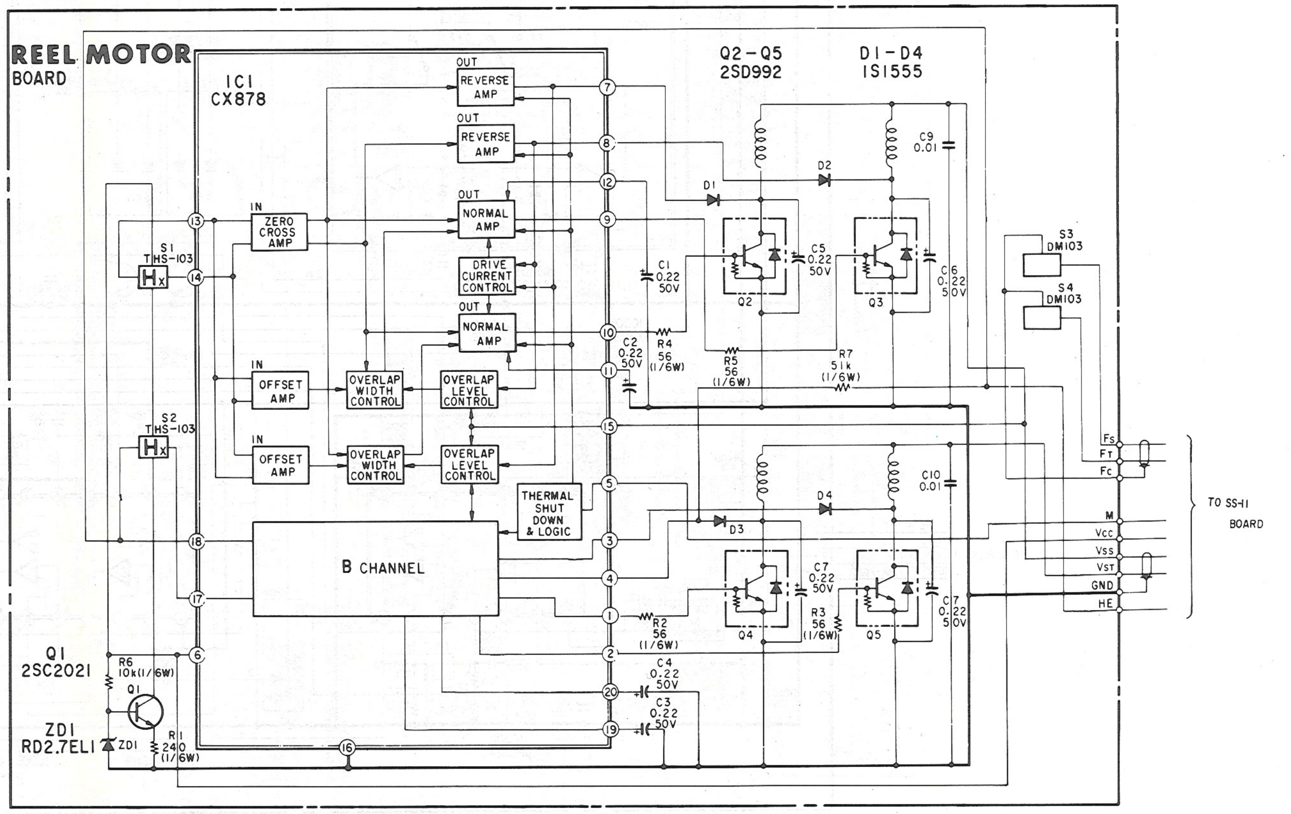

CAPSTAN MOTOR BOARD
IC1
CX877
S1
THS-103
S2
THS-103
S3
THS-103
Hx
INPUT AMP
PHASE SW
3 PHASE 120° LOGIC
OUTPUT AMP
D1
1S1555
Q1-Q6
2SD992
R1 470 (1/6W)
R2 470 (1/6W)
R3 470 (1/6W)
C1 47 10V
C2 47 10V
C3 47 10V
C4 22 16V
S4
DM-211
DME
R
VCC
GND
VS
TO SS41 BOARD

When indicating parts by reference number, please include the board name.

3-26. REEL MOTOR SCHEMATIC DIAGRAM & PRINTED WIRING BOARD

– Ref. No. 9100 series –


C10
C9
Q3
Q2
R5
R4
R2
R3
R7
D4
D3
D1
D2
S1
S3
J1
J2
ZD1
R6
S2
S4
C6
C5
C7
C8
Q4
Q5
IC
C2
C1
R1
C4
C3
Vcc
Vst
Vss
G
HE
M
Fs
F1
Fc
1-604-949-13


REEL MOTOR BOARD
IC1
CX878
OUT
REVERSE AMP
NORMAL AMP
IN
ZERO CROSS AMP
DRIVE CURRENT CONTROL
OFFSET AMP
OVERLAP WIDTH CONTROL
OVERLAP LEVEL CONTROL
THERMAL SHUT DOWN & LOGIC
B CHANNEL
S1
THS-103
S2
THS-103
Hx
Q2-Q5
2SD992
D1-D4
1S1555
C9 0.01
C10 0.01
C1 0.22 50V
C2 0.22 50V
C3 0.22 50V
C4 0.22 50V
C5 0.22 50V
C6 0.22 50V
C7 0.22 50V
R2 56 (1/6W)
R3 56 (1/6W)
R4 56 (1/6W)
R5 56 (1/6W)
R7 51k (1/6W)
S3
DM103
S4
DM103
Q1
2SC2021
ZD1
RD2.7EL1
R6 10k (1/6W)
R1 240 (1/6W)
Fs
Ft
Fc
M
Vcc
Vss
Vst
GND
HE
TO SS41 BOARD

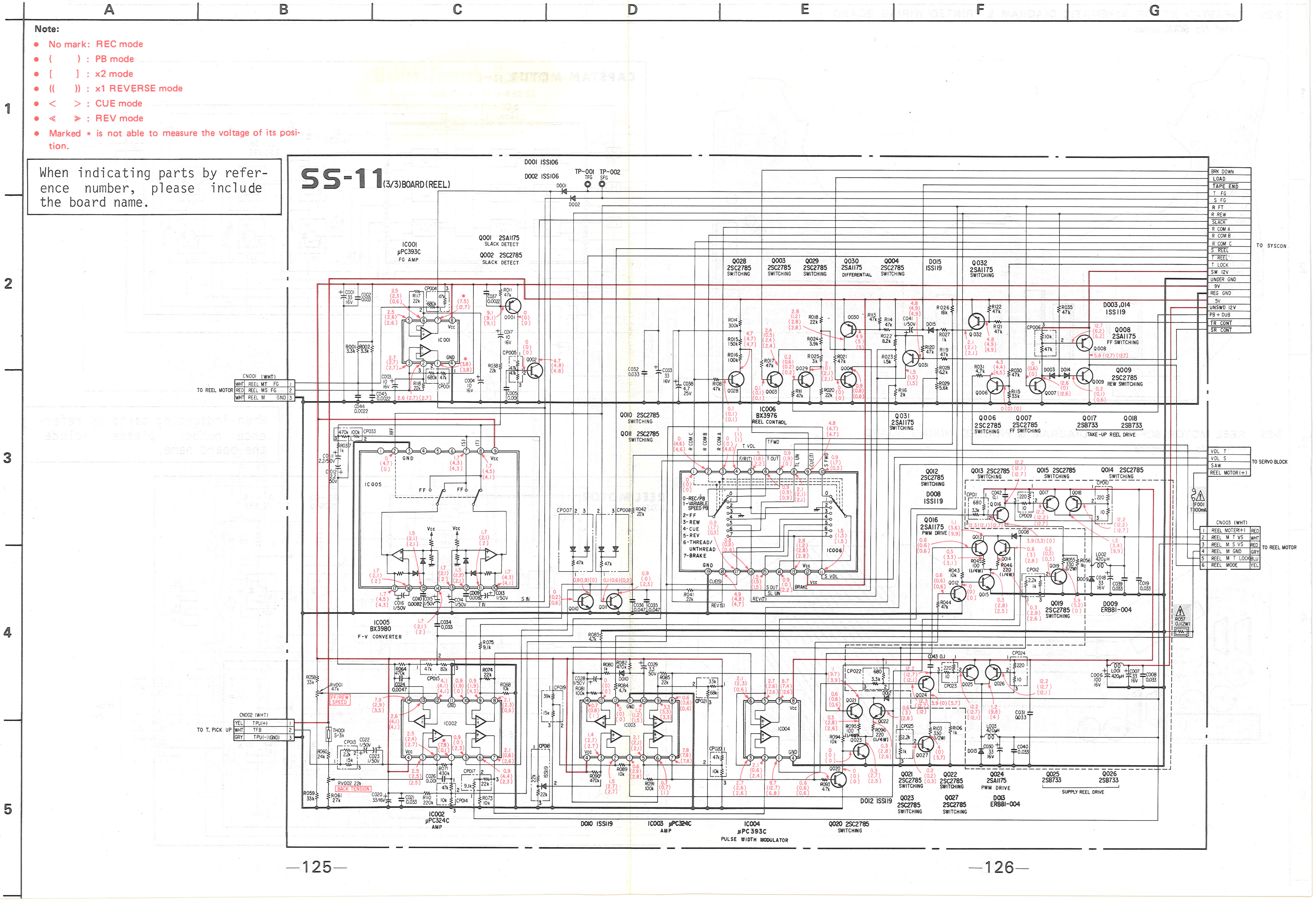
SS-11 (3/3) [SERVO]

3-27. SCHEMATIC DIAGRAM — *Ref. No. 2800 series* —

Note:

- No mark: REC mode
- ( ) : PB mode
- [ ] : x2 mode
- (( )) : x1 REVERSE mode
- < > : CUE mode
- ≪ ≫ : REV mode
- Marked ＊ is not able to measure the voltage of its position.

When indicating parts by reference number, please include the board name.



A
B
C
D
E
F
G
1
2
3
4
5
SS-11 (3/3) BOARD (REEL)
D001 ISS106
D002 ISS106
TP-001 TFG
TP-002 SFG
IC001 μPC393C FG AMP
Q001 2SA1175 SLACK DETECT
Q002 2SC2785 SLACK DETECT
Q028 2SC2785 SWITCHING
Q003 2SC2785 SWITCHING
Q029 2SC2785 SWITCHING
Q030 2SA1175 DIFFERENTIAL
Q004 2SC2785 SWITCHING
D015 ISS119
Q032 2SA1175 SWITCHING
D003,014 ISS119
Q008 2SA1175 FF SWITCHING
Q009 2SC2785 REW SWITCHING
CN001 (WHT)
TO REEL MOTOR
REEL MT FG
REEL MS FG
REEL M GND
Q010 2SC2785 SWITCHING
Q011 2SC2785 SWITCHING
IC006 BX3976 REEL CONTROL
Q031 2SA1175 SWITCHING
Q006 2SC2785 SWITCHING
Q007 2SC2785 FF SWITCHING
Q017 2SB733
Q018 2SB733
TAKE-UP REEL DRIVE
IC005
IC005 BX3980 F-V CONVERTER
0-REC/PB
1-VARIABLE SPEED PB
2-FF
3-REW
4-CUE
5-REV
6-THREAD/UNTHREAD
7-BRAKE
Q012 2SC2785 SWITCHING
D008 ISS119
Q016 2SA1175 PWM DRIVE
Q013 2SC2785 SWITCHING
Q015 2SC2785 SWITCHING
Q014 2SC2785 SWITCHING
Q019 2SC2785 SWITCHING
D009 ERB81-004
CN003 (WHT)
TO REEL MOTOR
REEL MOTER(+)
REEL M T VS
REEL M S VS
REEL M GND
REEL M T LOCK
REEL MODE
TO SERVO BLOCK
VOL T
VOL S
SAW
REEL MOTOR(+)
TO SYSCON
BRK DOWN
LOAD
TAPE END
T FG
S FG
R FT
R REW
SLACK
R COM A
R COM B
R COM C
S REEL
T REEL
T LOCK
SW 12V
UNDER GND
9V
REC GND
5V
UNSWD 12V
PB + DUB
TR CONT
SR CONT
CN002 (WHT)
TO T. PICK UP
TPU(+)
TFB
TPU(-)(GND)
RV001 FF/REW SPEED
RV002 BACK TENSION
TH001
IC002 μPC324C AMP
D010 ISS119
IC003 μPC324C AMP
IC004 μPC393C PULSE WIDTH MODULATOR
Q020 2SC2785 SWITCHING
D012 ISS119
Q021 2SC2785 SWITCHING
Q022 2SC2785 SWITCHING
Q023 2SC2785 SWITCHING
Q027 2SC2785 SWITCHING
Q024 2SA1175 PWM DRIVE
D013 ERB81-004
Q025 2SB733
Q026 2SB733
SUPPLY REEL DRIVE
F001
R057

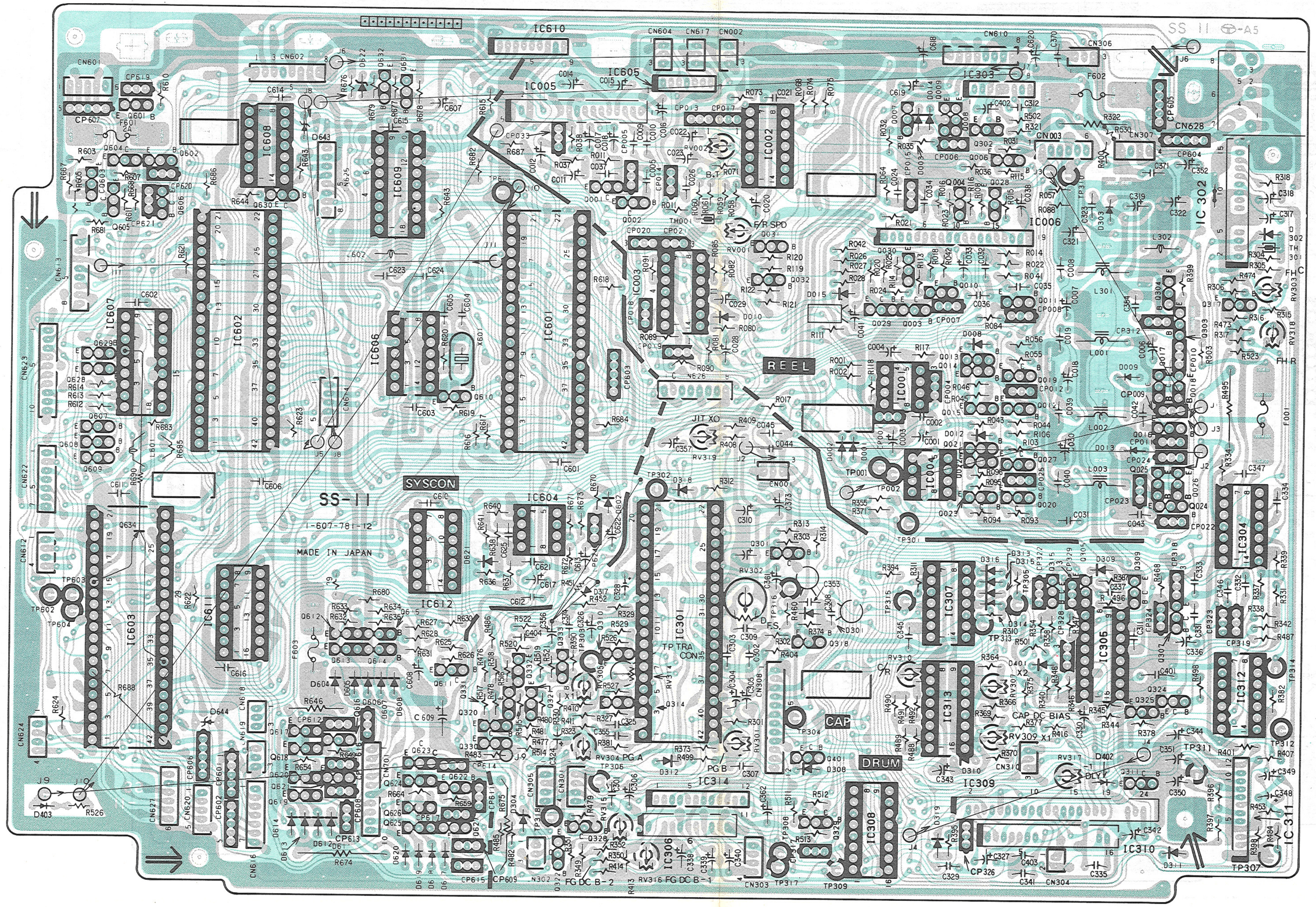
3-28. PRINTED WIRING BOARD – *Ref. No. 2800 series* –

– Conductor Side –

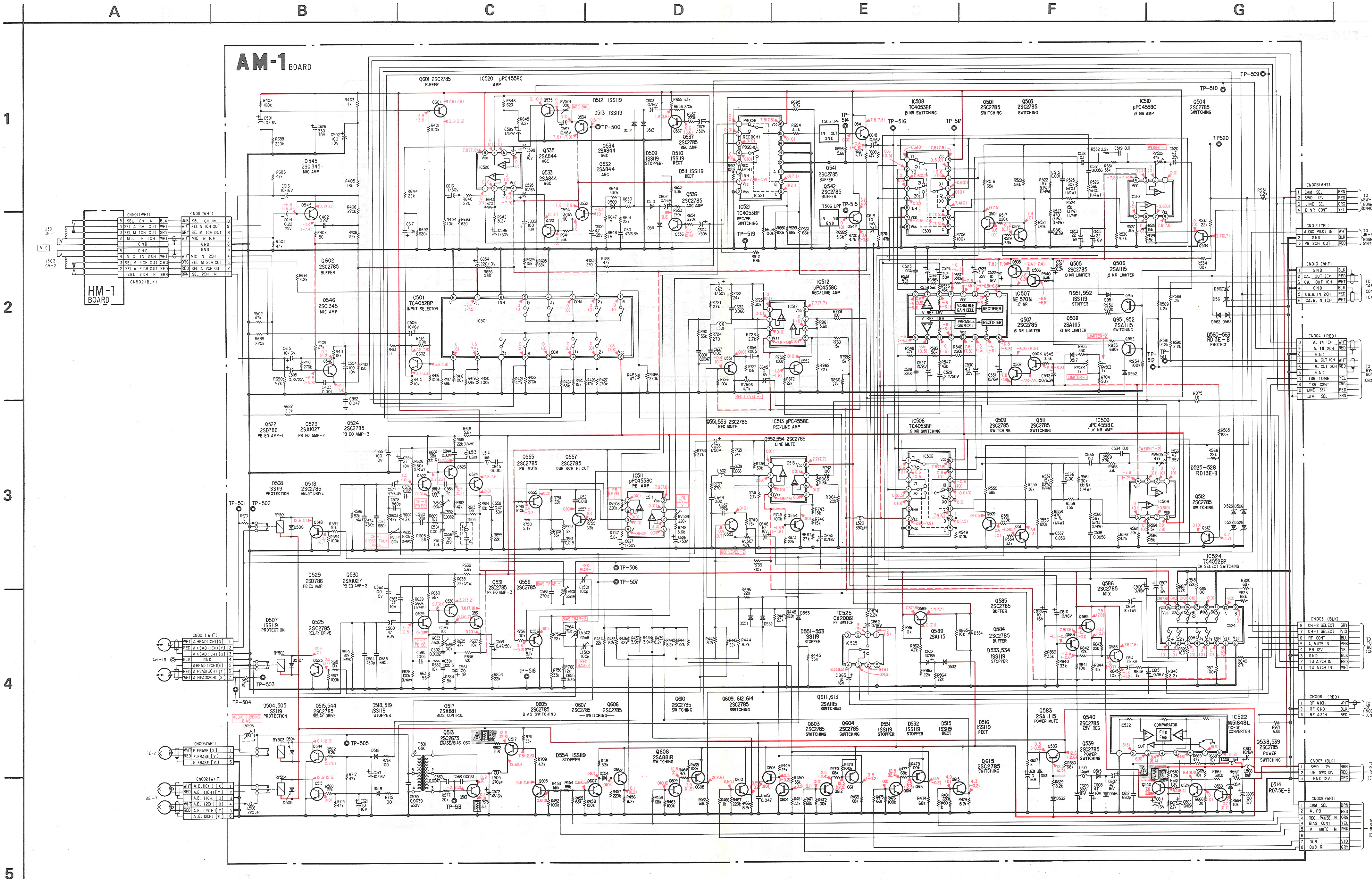
SS-11 **SS-11** [SERVO]

– SS-11 Board –

	A	B	C	D	E	F	G
Q · IC		601 604,602 603,605 606 629,IC607 628 607 608 609 IC603 634 IC608 IC602 IC611	632,631 IC609 IC606 610 IC612 612,615 613,614 617, 616 618 620,621 619 611 623 624,622 626,625,627 320 330 IC610 IC601 IC604 332 331,321 333 IC005 322,328	001,002 310 314 IC605 IC003 IC301 IC314 IC306 IC002 031 032 301 318 401 329	IC308 030 029,003, IC001 007 010 IC303 009,008,302,006 004,028 IC006 013,014 015 021,022 023 IC004 IC307 IC313 011 019 012 027 020 IC 309 IC310	315,305 IC305 309 307 325, 324 311 304,303 017,018 016,026 025,024 IC302 317 IC304 IC312 IC311	
D	403	643 611-614	622 604-608 621 617-620 317 304	602 318 010 312 301 308 015	002,001 003,014 008 012 313-316 319 401	303 009 013 309 402 311 302	
RV · TP	TP602-604		TP601 TP318	TP303 RV304,305,314 TP306 RV315,316 TP302 RV002 RV001 RV319 RV302 RV301 TP316 TP304 TP308,317,309	TP001,002 TP301 TP315 RV310 RV307 RV309 TP305 RV317	TP311 RV303 RV318 TP314 TP312 TP307	


A
B
C
D
E
F
G
1
2
3
4
5
SS-11
1-607-781-12
MADE IN JAPAN
SYSCON
REEL
CAP
DRUM
IC610
IC605
IC005
IC608
IC609
IC602
IC601
IC607
IC606
IC604
IC603
IC611
IC612
IC301
IC002
IC003
IC001
IC004
IC006
IC302
IC303
IC304
IC305
IC307
IC308
IC309
IC310
IC311
IC312
IC313
IC314
IC306
SS 11 A5

HM-1 **AM-1** **AM-1** [AUDIO]

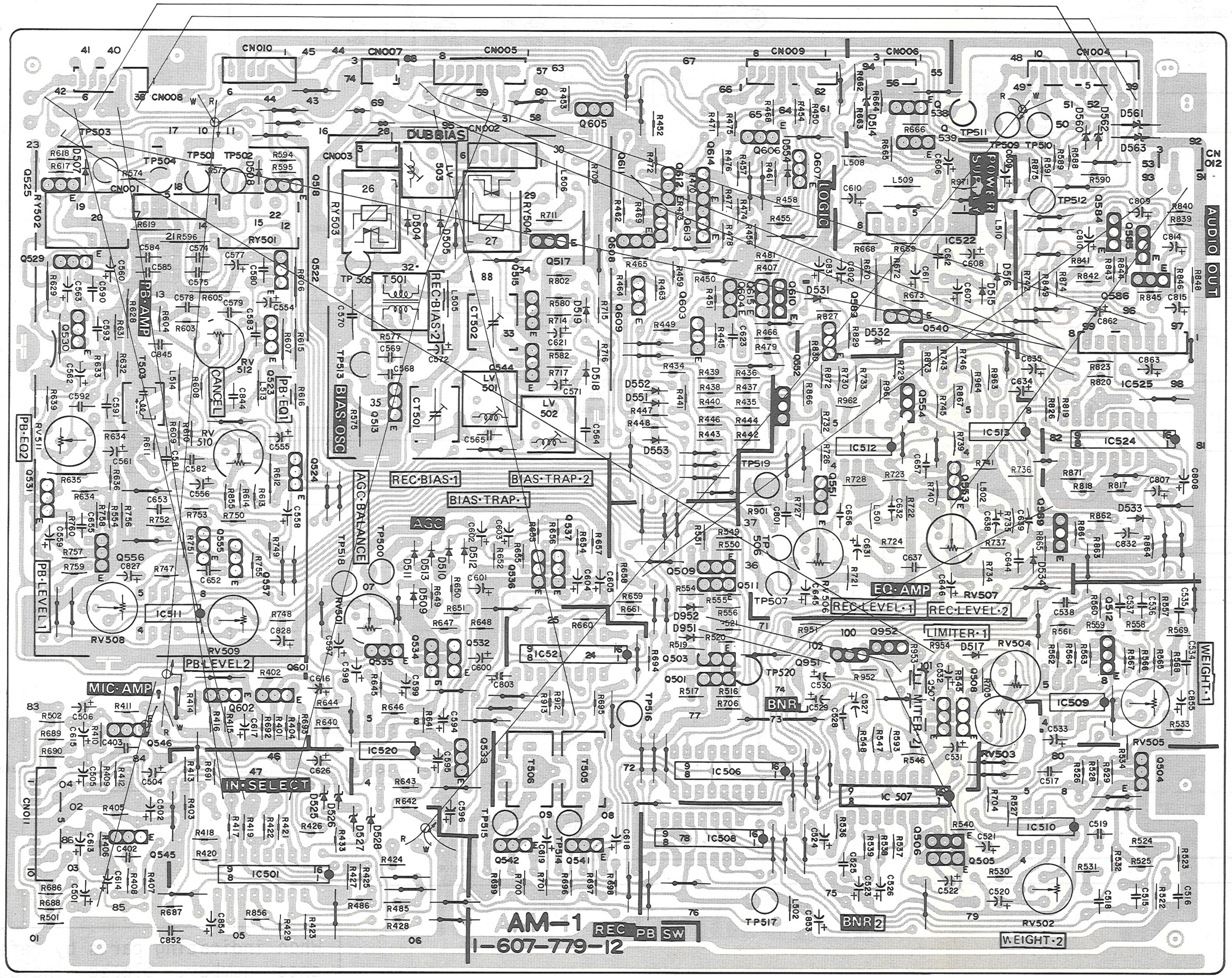

A
B
C
D
E
F
G
1
2
3
4
5
AM-1 BOARD
HM-1 BOARD
IC501 TC4052BP INPUT SELECTOR
IC520 μPC4558C AMP
IC508 TC4053BP β NR SWITCHING
IC510 μPC4558C β NR AMP
IC521 TC4053BP REC/PB SWITCHING
IC512 μPC4558C REC/LINE AMP
IC507 NE570N β NR
IC511 μPC4558C PB AMP
IC513 μPC4558C REC/LINE AMP
IC506 TC4053BP β NR SWITCHING
IC509 μPC4558C β NR AMP
IC524 TC4052BP CH SELECT SWITCHING
IC525 CX20061 RF SWITCH
IC522 M51848L DC-DC CONVERTER
CN501 (WHT)
CN011 (WHT)
CN502 (BLK)
CN008 (WHT) TO SW-11 BOARD (CN402)
CN012 (YEL) TO JP-2/3/31 BOARD (CN701)
CN010 (WHT) TO CAMERA CONNECTOR (CA-5)
CN004 (RED) TO RV-7 BOARD (CN004)
CN005 (BLK) TO TU-35 BOARD (CN002)
CN006 (RED) TO MODULATOR (CN101)
CN007 (BLK) TO SWITCHING REGULATOR (CN004)
CN009 (WHT) TO SS-11 BOARD (CN613)
CN001 (WHT)
CN003 (WHT)
CN002 (WHT)
AH-13
FE-2
AE-7
MIC
TP-500
TP-501
TP-502
TP-503
TP-504
TP-505
TP-506
TP-507
TP-509
TP-510
TP-516
TP-517
TP-518
TP-519
TP520

When indicating parts by reference number, please include the board name.

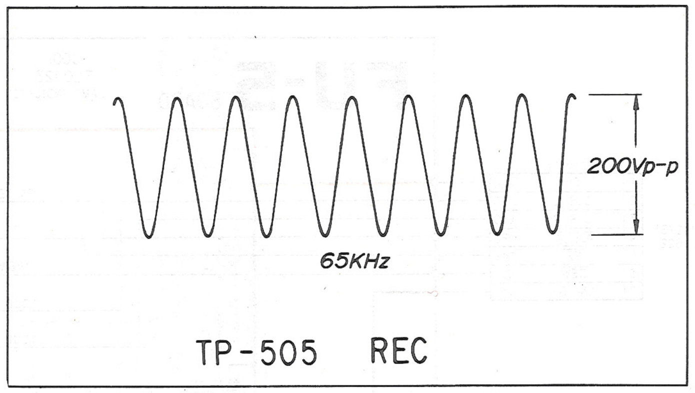
3-30. PRINTED WIRING BOARD — *Ref. No. 4000 series* —
— Conductor Side —

— AM-1 Board —

	A	B	C	D	E	
Q · IC	525 529 530 531 556 546 545 IC511 555, 557 602	IC501 518 522 523 524 601 513 535 IC520 534 532 533	542 517 515 544 536 605 537 IC521 541 608 609 612 611 614 613 603 509 511 503 501 IC508	606 604, 615, 610 607 552 583 551 951 IC512 952 540 IC507 538 539 554 IC522 553 507, 508 506 505	IC513 IC510 584 IC509 585 586 IC525 IC524 512 504	Q · IC
D	507	508 525, 526 527, 528 504, 505 511, 513, 510, 512 509	519 518 552 551 553 952 951	554 531 514 532 515 517	516 534 560 562 561 563 533	D
TP · ADJ	RV511 503 RV508 504 501	502 RV512 RV510 RV509 518 505 513 RV501 500 LV503 CT501 CT502	LV501, LV502 515 514 516 520	517 519 506 507 RV506 RV507 511 509 RV503	510 512 RV504 RV502 RV505	TP · ADJ

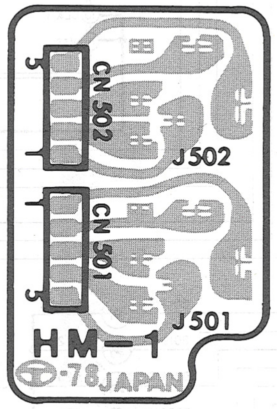

CN010
CN007
CN005
CN009
CN006
CN004
CN008
CN001
CN002
CN003
CN011
CN012
DUBBIAS
PB-AMP
CANCEL
PB-EQ1
PB-EQ2
BIAS-OSC
REC-BIAS-1
REC-BIAS-2
BIAS-TRAP-1
BIAS-TRAP-2
AGC
AGC-BALANCE
LOGIC
POWER SUPPLY
AUDIO OUT
EQ-AMP
REC-LEVEL-1
REC-LEVEL-2
LIMITER-1
LIMITER-2
BNR
BNR2
WEIGHT-1
WEIGHT-2
MIC-AMP
IN-SELECT
PB-LEVEL1
PB-LEVEL2
REC PB SW
AM-1
1-607-779-12

AM - I BOARD



TP - 505 REC

— HM-1 Board —

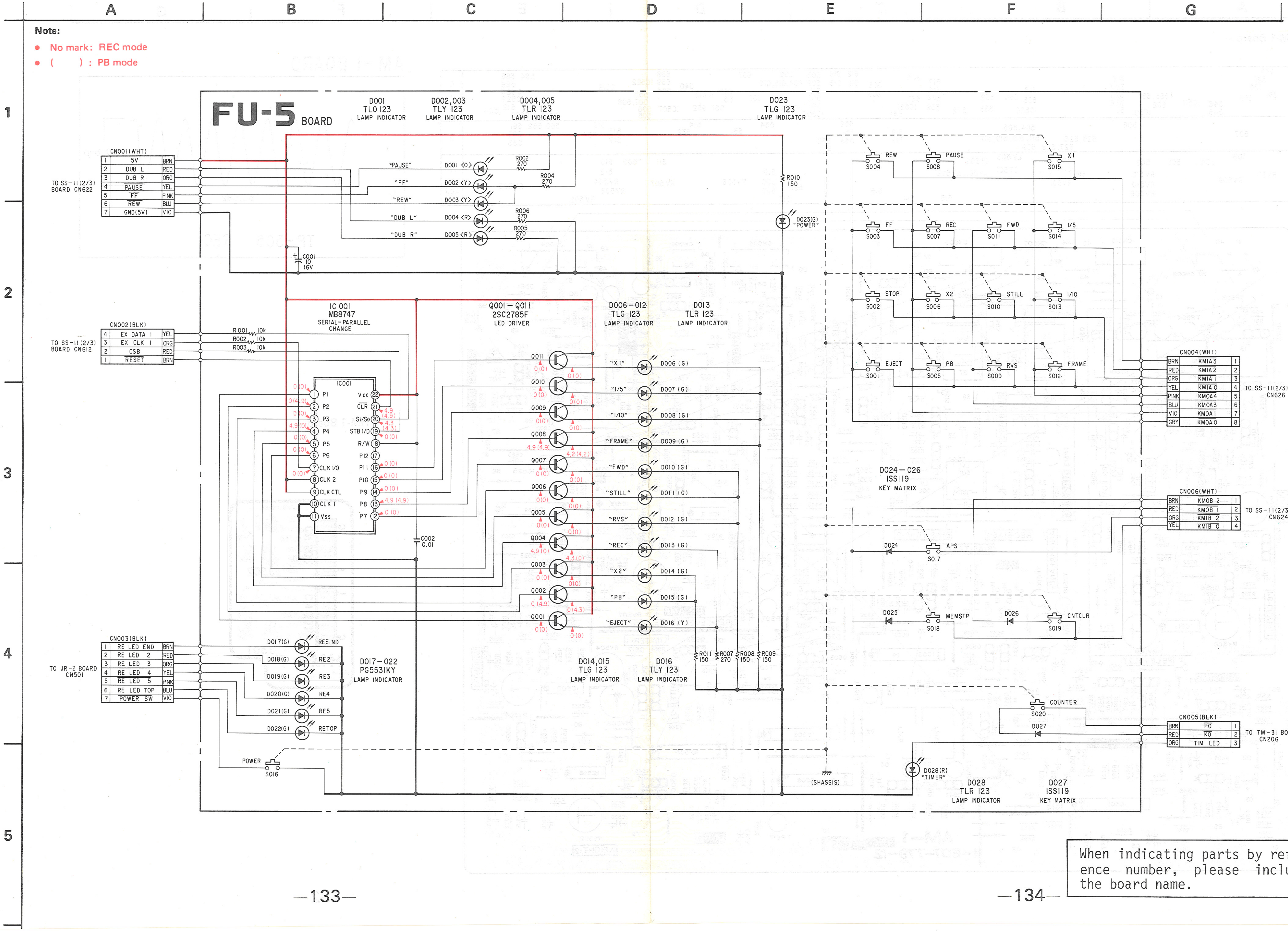

CN 502
J502
CN 501
J501
HM-1
-78 JAPAN

FU-5 [FUNCTION SW]

3-31. SCHEMATIC DIAGRAM — *Ref. No. 3000 series* —

Note:

- No mark: REC mode
- ( ) : PB mode



A
B
C
D
E
F
G
1
2
3
4
5
FU-5 BOARD
D001 TLO 123 LAMP INDICATOR
D002,003 TLY 123 LAMP INDICATOR
D004,005 TLR 123 LAMP INDICATOR
D023 TLG 123 LAMP INDICATOR
CN001 (WHT)
1 5V BRN
2 DUB L RED
3 DUB R ORG
4 PAUSE YEL
5 FF PINK
6 REW BLU
7 GND(5V) VIO
TO SS-11(2/3) BOARD CN622
"PAUSE"
"FF"
"REW"
"DUB L"
"DUB R"
D001 (O)
D002 (Y)
D003 (Y)
D004 (R)
D005 (R)
R002 270
R004 270
R006 270
R005 270
R010 150
D023(G) "POWER"
C001 10 16V
CN002 (BLK)
4 EX DATA I YEL
3 EX CLK I ORG
2 CSB RED
1 RESET BRN
TO SS-11(2/3) BOARD CN612
R001 10k
R002 10k
R003 10k
IC 001 MB8747 SERIAL-PARALLEL CHANGE
IC001
P1
P2
P3
P4
P5
P6
CLK I/O
CLK 2
CLK CTL
CLK 1
Vss
Vcc
CLR
S I/So
STB I/O
R/W
P12
P11
P10
P9
P8
P7
C002 0.01
Q001 – Q011 2SC2785F LED DRIVER
Q001
Q002
Q003
Q004
Q005
Q006
Q007
Q008
Q009
Q010
Q011
D006 – 012 TLG 123 LAMP INDICATOR
D013 TLR 123 LAMP INDICATOR
"X1"
"1/5"
"1/10"
"FRAME"
"FWD"
"STILL"
"RVS"
"REC"
"X2"
"PB"
"EJECT"
D006 (G)
D007 (G)
D008 (G)
D009 (G)
D010 (G)
D011 (G)
D012 (G)
D013 (G)
D014 (G)
D015 (G)
D016 (Y)
R011 150
R007 270
R008 150
R009 150
D014,015 TLG 123 LAMP INDICATOR
D016 TLY 123 LAMP INDICATOR
CN003 (BLK)
1 RE LED END BRN
2 RE LED 2 RED
3 RE LED 3 ORG
4 RE LED 4 YEL
5 RE LED 5 PINK
6 RE LED TOP BLU
7 POWER SW VIO
TO JR-2 BOARD CN501
D017(G) REE ND
D018(G) RE2
D019(G) RE3
D020(G) RE4
D021(G) RE5
D022(G) RETOP
D017 – 022 PG5531KY LAMP INDICATOR
POWER S016
REW S004
PAUSE S008
X1 S015
FF S003
REC S007
FWD S011
1/5 S014
STOP S002
X2 S006
STILL S010
1/10 S013
EJECT S001
PB S005
RVS S009
FRAME S012
CN004 (WHT)
BRN KM1A3 1
RED KM1A2 2
ORG KM1A1 3
YEL KM1A0 4
PINK KM0A4 5
BLU KM0A3 6
VIO KM0A1 7
GRY KM0A0 8
TO SS-11(2/3) BOARD CN626
D024 – 026 ISS119 KEY MATRIX
CN006 (WHT)
BRN KM0B2 1
RED KM0B1 2
ORG KM1B2 3
YEL KM1B0 4
TO SS-11(2/3) BOARD CN624
D024
APS S017
D025
MEMSTP S018
D026
CNTCLR S019
COUNTER S020
D027
CN005 (BLK)
BRN PO 1
RED KO 2
ORG TIM LED 3
TO TM-31 BOARD CN206
(SHASSIS)
D028(R) "TIMER"
D028 TLR 123 LAMP INDICATOR
D027 ISS119 KEY MATRIX

When indicating parts by reference number, please include the board name.

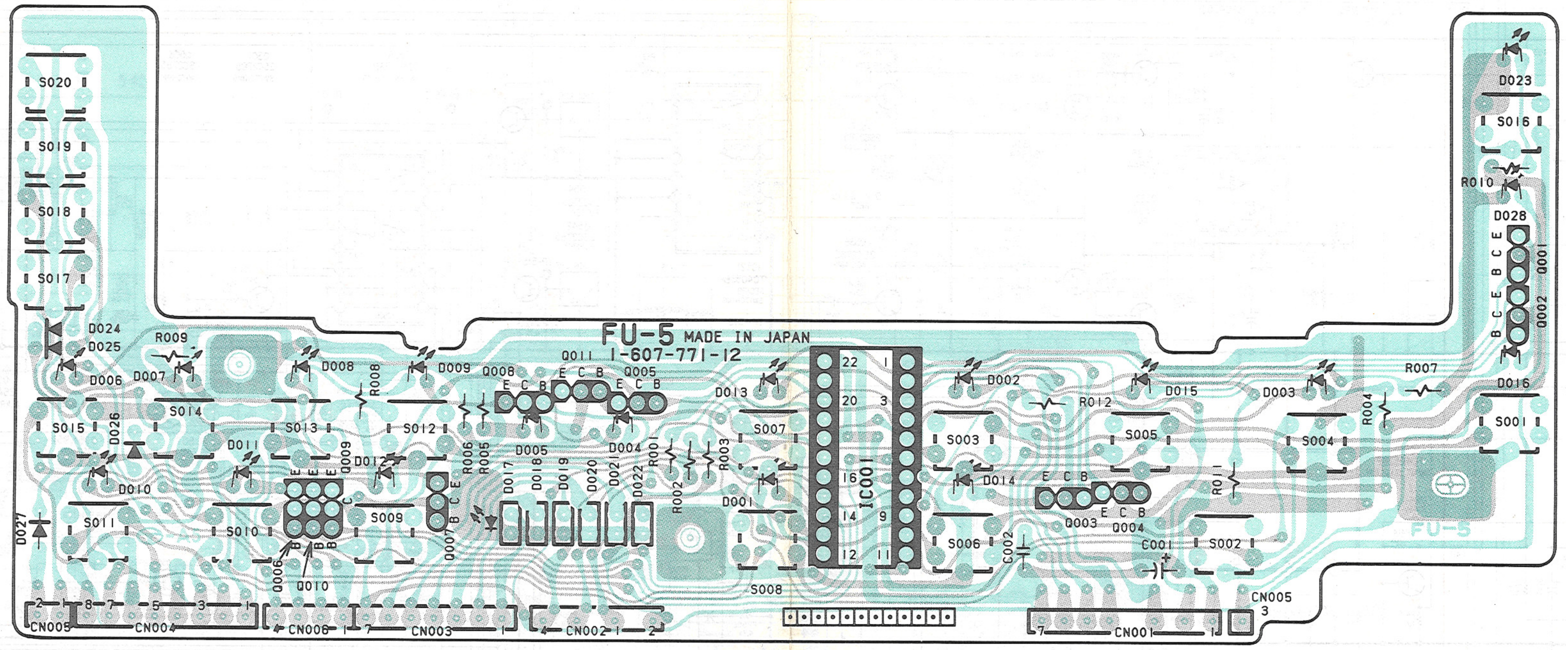
FU-5

FU-5 [FUNCTION SW]

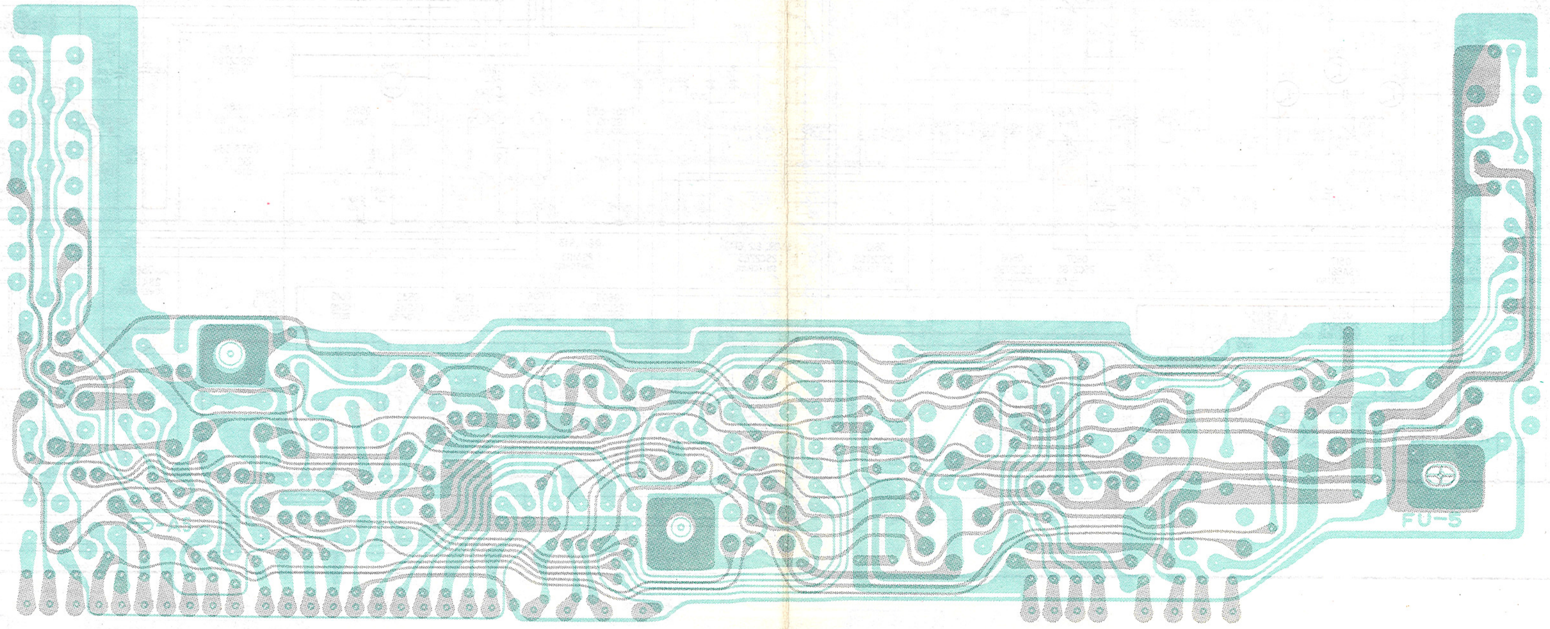
3-32. PRINTED WIRING BOARD — *Ref. No. 3000 series* —

— Conductor Side —

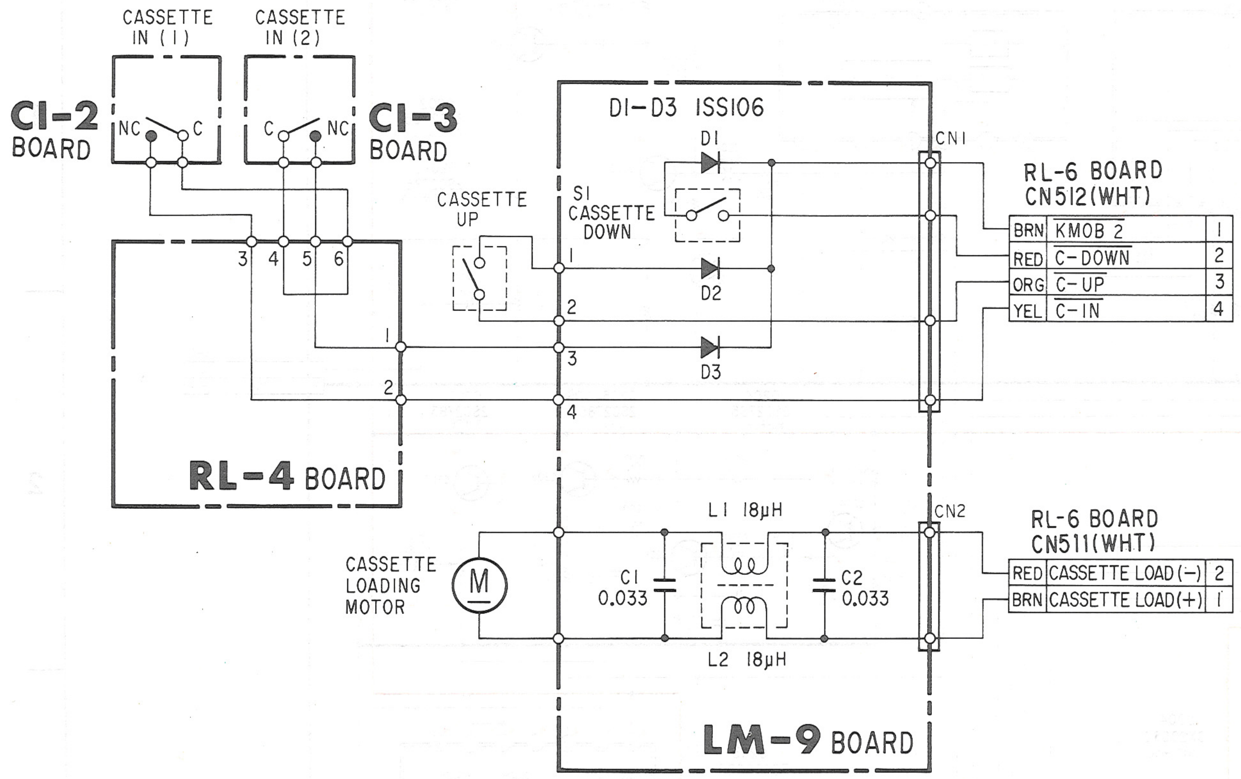
— FU-5 Board —


FU-5 MADE IN JAPAN
1-607-771-12
S020
S019
S018
S017
S016
S015
S014
S013
S012
S011
S010
S009
S008
S007
S006
S005
S004
S003
S002
S001
D024
D025
D026
D027
D006
D007
D008
D009
D010
D011
D012
D013
D014
D015
D016
D017
D018
D019
D020
D021
D022
D023
D028
D001
D002
D003
D004
D005
Q001
Q002
Q003
Q004
Q005
Q006
Q007
Q008
Q009
Q010
Q011
R001
R002
R003
R004
R005
R006
R007
R008
R009
R010
R011
R012
C001
C002
IC001
CN001
CN002
CN003
CN004
CN005
CN006
E C B

Q IC				006,010,009		007	008 011 005	IC001		003 004		001 002
D	024 025 026 027,006,010	007	011	008	012	009	005 004 017,018,019,020,021,022	013 001	002 014	015	003	023 028 016



3-33. SCHEMATIC DIAGRAMS – *Ref. No. LM-9 BOARD: 9500 series* –

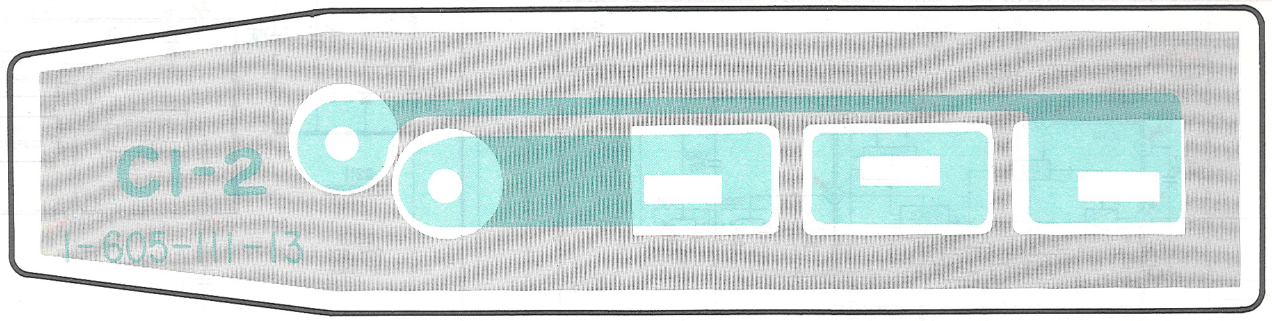

CASSETTE IN (1)
CASSETTE IN (2)
CI-2 BOARD
CI-3 BOARD
NC
C
RL-4 BOARD
3 4 5 6
1
2
CASSETTE UP
S1 CASSETTE DOWN
D1-D3 1SS106
D1
D2
D3
CN1
RL-6 BOARD CN512(WHT)
BRN KMOB 2 1
RED C-DOWN 2
ORG C-UP 3
YEL C-IN 4
CASSETTE LOADING MOTOR
M
C1 0.033
L1 18μH
L2 18μH
C2 0.033
CN2
RL-6 BOARD CN511(WHT)
RED CASSETTE LOAD(–) 2
BRN CASSETTE LOAD(+) 1
LM-9 BOARD

When indicating parts by reference number, please include the board name.

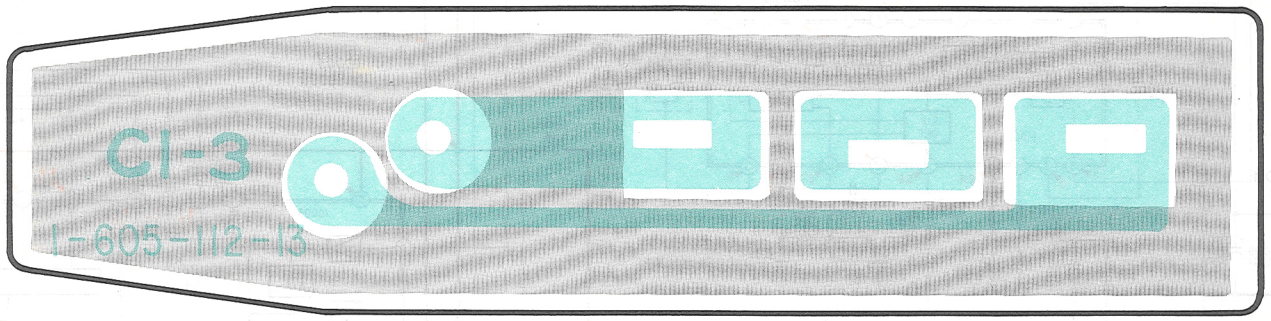
3-34. PRINTED WIRING BOARD – *Ref. No. LM-9 BOARD: 9500 series* –

– Conductor Side –

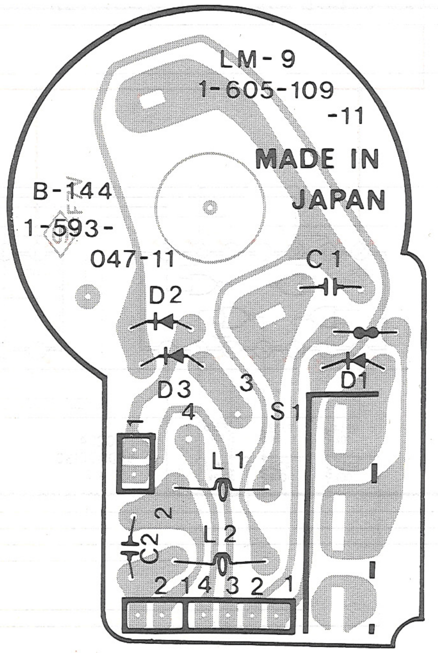
– C1-2 Board –


CI-2
1-605-111-13

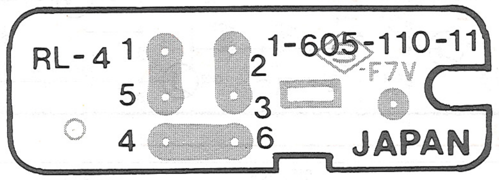
– C1-3 Board –


CI-3
1-605-112-13

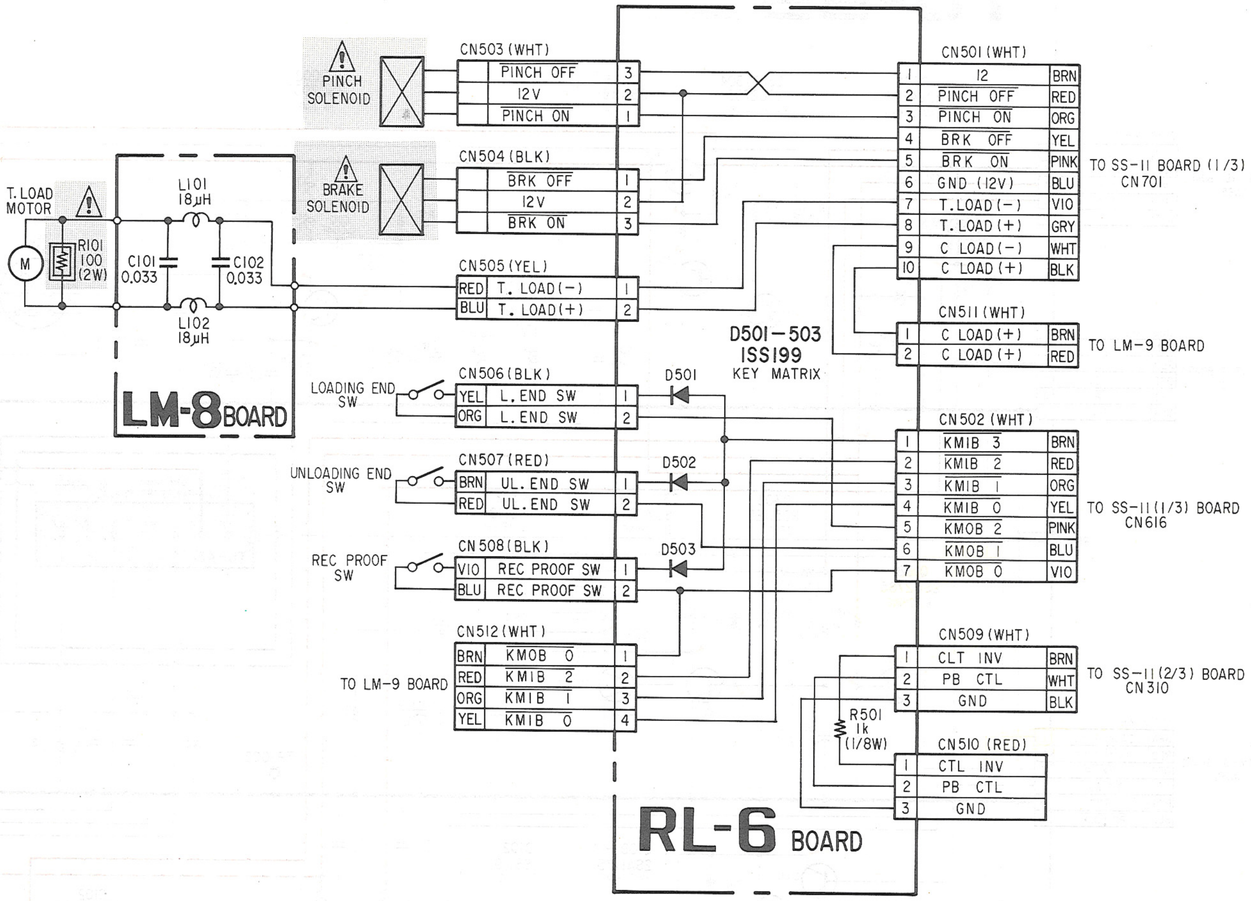
– LM-9 Board –


LM-9
1-605-109
-11
MADE IN JAPAN
B-144
1-593-
047-11
C1
D2
D3
D1
S1
L1
L2
C2
2 1 4 3 2 1

– RL-4 Board –


RL-4
1 5 4
2 3 6
1-605-110-11
F7V
JAPAN

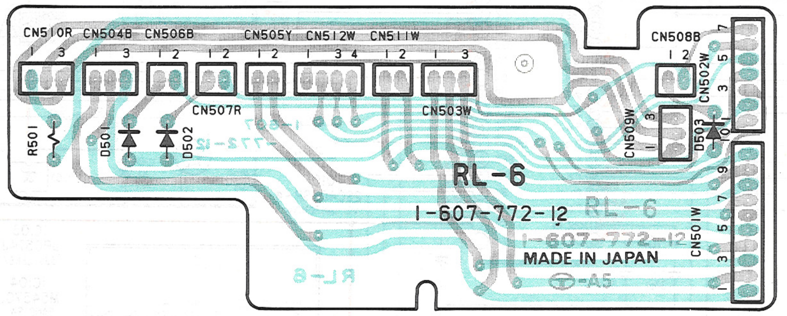
3-35. SCHEMATIC DIAGRAM *– Ref. No. RL-6 BOARD: 13000 series, LM-8 BOARD: 9300 series –*


PINCH SOLENOID
BRAKE SOLENOID
T. LOAD MOTOR
M
R101 100 (2W)
C101 0.033
C102 0.033
L101 18μH
L102 18μH
LM-8 BOARD
CN503 (WHT)
PINCH OFF
12V
PINCH ON
CN504 (BLK)
BRK OFF
12V
BRK ON
CN505 (YEL)
RED T. LOAD(−)
BLU T. LOAD(+)
LOADING END SW
CN506 (BLK)
YEL L. END SW
ORG L. END SW
UNLOADING END SW
CN507 (RED)
BRN UL. END SW
RED UL. END SW
REC PROOF SW
CN508 (BLK)
VIO REC PROOF SW
BLU REC PROOF SW
CN512 (WHT)
BRN KMOB 0
RED KMIB 2
ORG KMIB 1
YEL KMIB 0
TO LM-9 BOARD
D501
D502
D503
D501–503 ISS199 KEY MATRIX
R501 1k (1/8W)
CN501 (WHT)
1 12 BRN
2 PINCH OFF RED
3 PINCH ON ORG
4 BRK OFF YEL
5 BRK ON PINK
6 GND (12V) BLU
7 T.LOAD(−) VIO
8 T.LOAD(+) GRY
9 C LOAD(−) WHT
10 C LOAD(+) BLK
TO SS-11 BOARD (1/3) CN701
CN511 (WHT)
1 C LOAD(+) BRN
2 C LOAD(+) RED
TO LM-9 BOARD
CN502 (WHT)
1 KMIB 3 BRN
2 KMIB 2 RED
3 KMIB 1 ORG
4 KMIB 0 YEL
5 KMOB 2 PINK
6 KMOB 1 BLU
7 KMOB 0 VIO
TO SS-11 (1/3) BOARD CN616
CN509 (WHT)
1 CLT INV BRN
2 PB CTL WHT
3 GND BLK
TO SS-11 (2/3) BOARD CN310
CN510 (RED)
1 CTL INV
2 PB CTL
3 GND
RL-6 BOARD

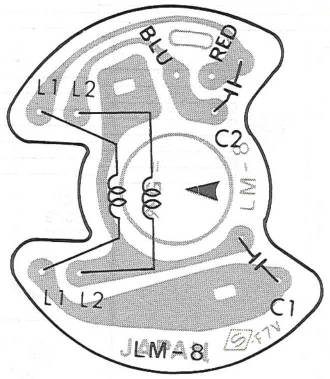
3-36. PRINTED WIRING BOARD

– Conductor Side –

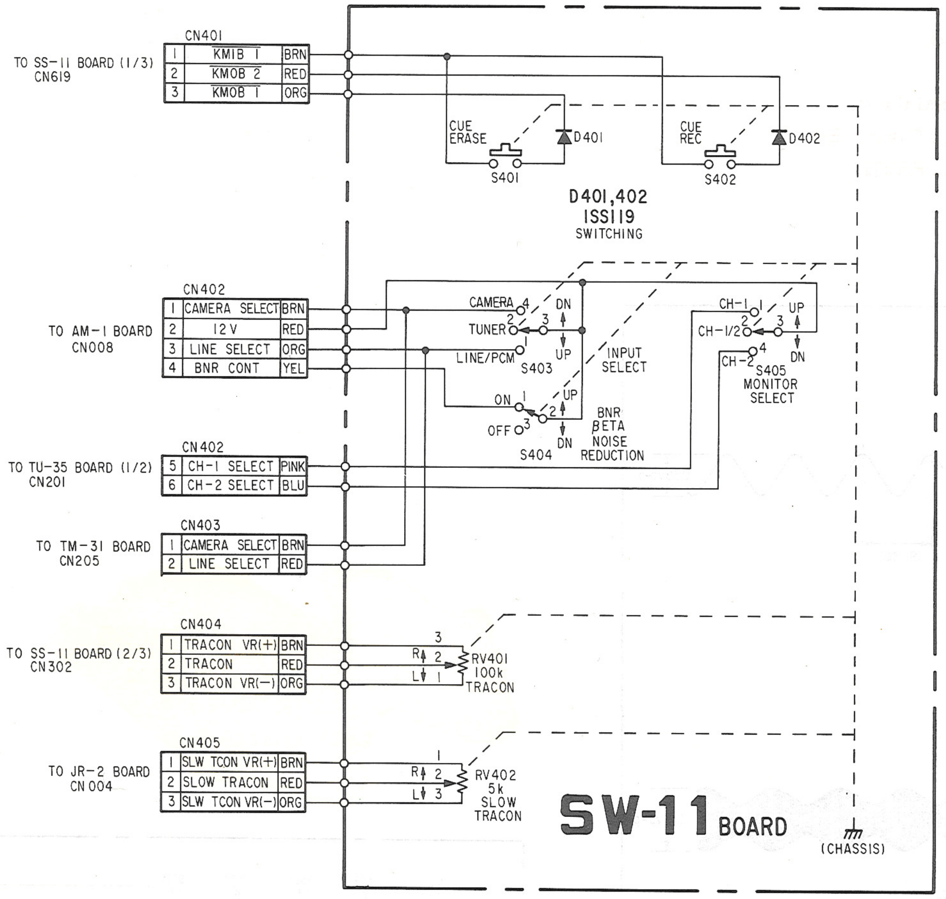
– RL-6 Board –


CN510R CN504B CN506B CN505Y CN512W CN511W
CN508B
CN502W
CN507R
CN503W
CN509W
R501
D501
D502
D503
RL-6
1-607-772-12
MADE IN JAPAN
A5
CN501W

– LM-8 Board –

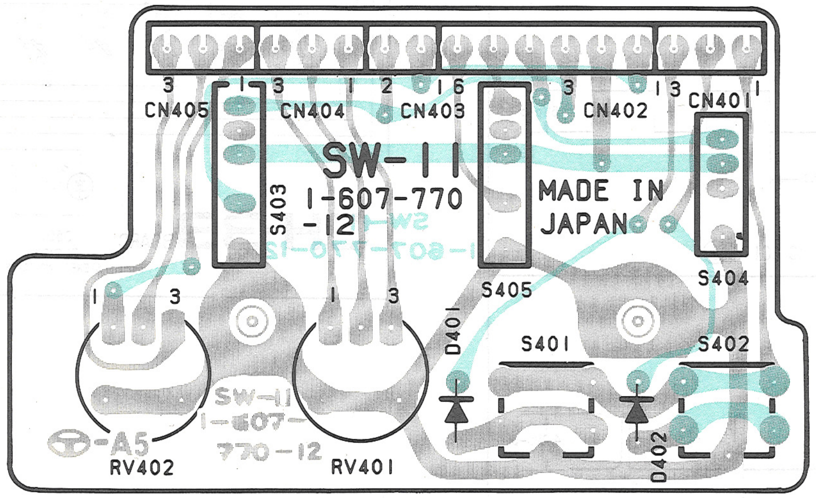

BLU
RED
L1 L2
C2
LM-8
L1 L2
C1
JAPAN
LM-8

3-37. SCHEMATIC DIAGRAM *– Ref. No. 23000 series –*


TO SS-11 BOARD (1/3) CN619
CN401
1 KMIB 1 BRN
2 KMOB 2 RED
3 KMOB 1 ORG
CUE ERASE
S401
D401
CUE REC
S402
D402
D401,402 ISS119 SWITCHING
TO AM-1 BOARD CN008
CN402
1 CAMERA SELECT BRN
2 12V RED
3 LINE SELECT ORG
4 BNR CONT YEL
CAMERA
TUNER
LINE/PCM
S403 INPUT SELECT
ON OFF
S404 BNR βETA NOISE REDUCTION
CH-1
CH-1/2
CH-2
S405 MONITOR SELECT
UP DN
TO TU-35 BOARD (1/2) CN201
CN402
5 CH-1 SELECT PINK
6 CH-2 SELECT BLU
TO TM-31 BOARD CN205
CN403
1 CAMERA SELECT BRN
2 LINE SELECT RED
TO SS-11 BOARD (2/3) CN302
CN404
1 TRACON VR(+) BRN
2 TRACON RED
3 TRACON VR(−) ORG
RV401 100k TRACON
TO JR-2 BOARD CN004
CN405
1 SLW TCON VR(+) BRN
2 SLOW TRACON RED
3 SLW TCON VR(−) ORG
RV402 5k SLOW TRACON
SW-11 BOARD
(CHASSIS)

3-38. PRINTED WIRING BOARD

– Conductor Side –


CN405 CN404 CN403 CN402 CN401
SW-11
1-607-770-12
MADE IN JAPAN
S403
S405
S404
S401
S402
D401
D402
RV402
RV401
A5

When indicating parts by reference number, please include the board name.

TU-35 (1/2) CH-33 MT-1 (TUNER, VIF, SIF, TUNING CONTROL)

3-39. SCHEMATIC DIAGRAM – *Ref. No. TU-35 BOARD: 5100 ~ 5300 series, CH-33 BOARD: 5500 series, MT-1 BOARD: 8100 series* –

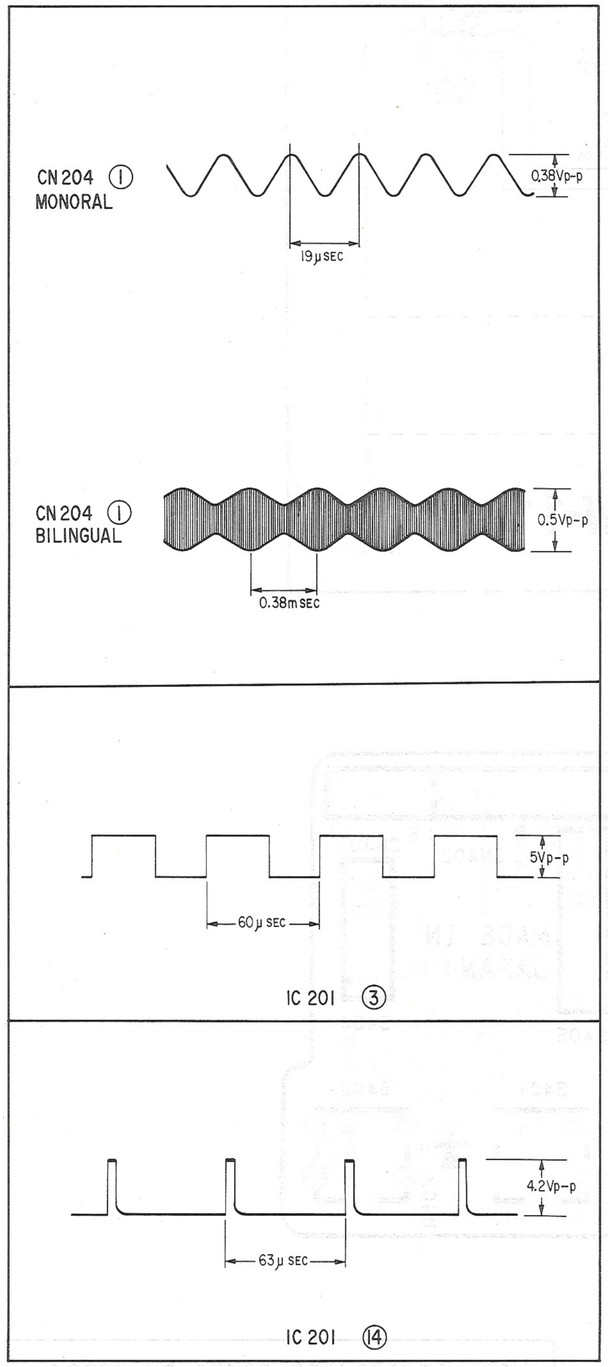
Note:

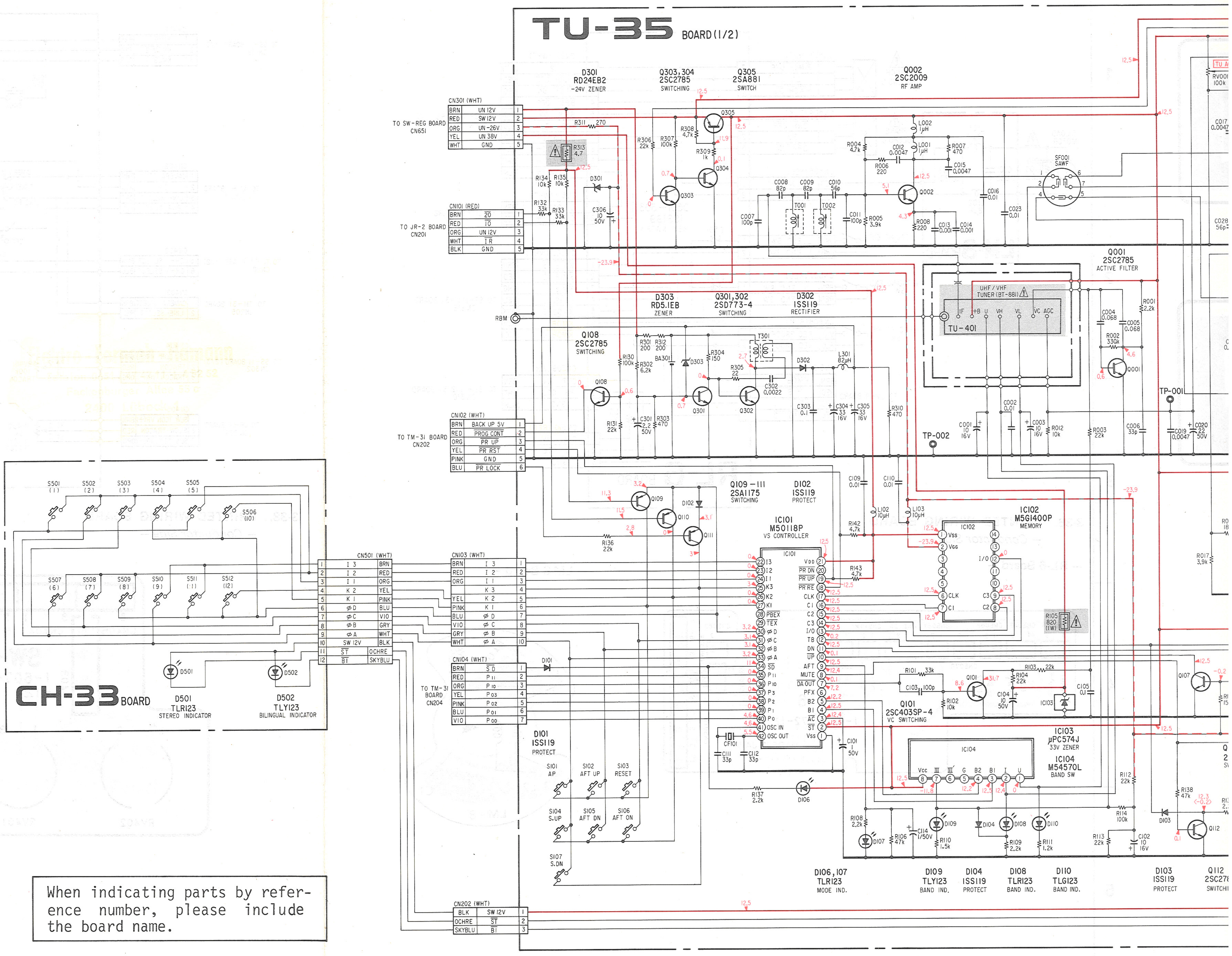
- No mark: MONO mode
- (   ) : BILINGUAL mode
- <   > : REC mode
- Reading are taken under conditions:

  AERIAL IN .... Channel E-3

  Program indicator ..... PROG 1

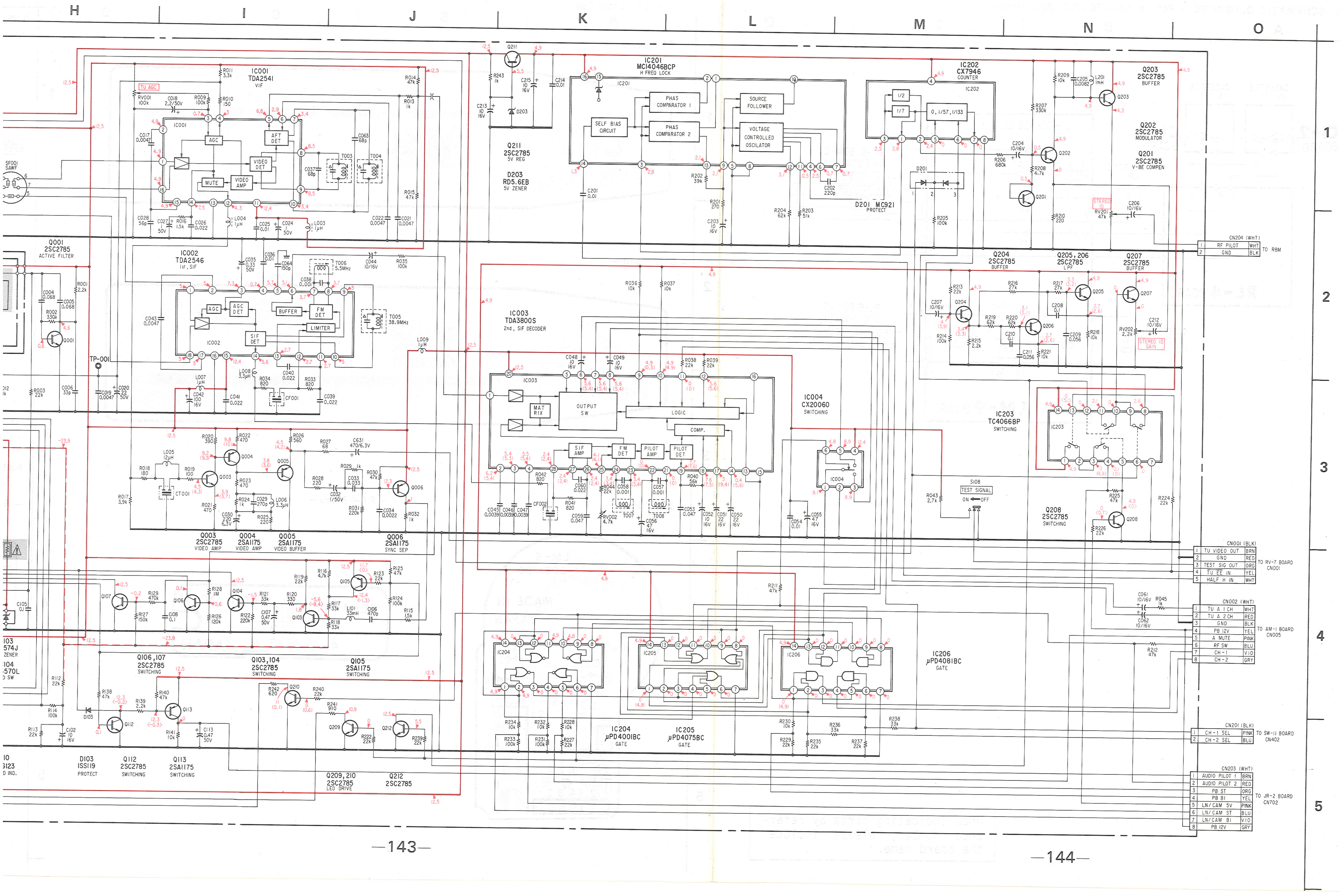
TU-35 BOARD





TU-35 BOARD (1/2)
CH-33 BOARD
D301 RD24EB2 -24V ZENER
Q303,304 2SC2785 SWITCHING
Q305 2SA881 SWITCH
Q002 2SC2009 RF AMP
Q001 2SC2785 ACTIVE FILTER
D303 RD5.1EB ZENER
Q301,302 2SD773-4 SWITCHING
D302 1SS119 RECTIFIER
Q108 2SC2785 SWITCHING
Q109 – 111 2SA1175 SWITCHING
D102 1SS119 PROTECT
IC101 M50118P VS CONTROLLER
IC102 M5G1400P MEMORY
IC103 µPC574J 33V ZENER
IC104 M54570L BAND SW
Q101 2SC403SP-4 VC SWITCHING
D101 1SS119 PROTECT
D106,107 TLR123 MODE IND.
D109 TLY123 BAND IND.
D104 1SS119 PROTECT
D108 TLR123 BAND IND.
D110 TLG123 BAND IND.
D103 1SS119 PROTECT
D501 TLR123 STEREO INDICATOR
D502 TLY123 BILINGUAL INDICATOR
UHF/VHF TUNER (BT-881)
TU-401
SF001 SAWF
TO SW-REG BOARD CN651
TO JR-2 BOARD CN201
TO TM-31 BOARD CN202
TO TM-31 BOARD CN204
CN301 (WHT)
CN101 (RED)
CN102 (WHT)
CN103 (WHT)
CN104 (WHT)
CN202 (WHT)
CN501 (WHT)
S501 (1) S502 (2) S503 (3) S504 (4) S505 (5) S506 (10)
S507 (6) S508 (7) S509 (8) S510 (9) S511 (11) S512 (12)
S101 AP
S102 AFT UP
S103 RESET
S104 S.UP
S105 AFT DN
S106 AFT ON
S107 S.DN
TP-001
TP-002
RBM

When indicating parts by reference number, please include the board name.


H
I
J
K
L
M
N
O
1
2
3
4
5
IC001
TDA2541
VIF
IC002
TDA2546
1st, SIF
IC003
TDA3800S
2nd, SIF DECODER
IC004
CX20060
SWITCHING
IC201
MC14046BCP
H FREQ LOCK
IC202
CX7946
COUNTER
IC203
TC4066BP
SWITCHING
IC204
μPD4001BC
GATE
IC205
μPD4075BC
GATE
IC206
μPD4081BC
GATE
Q001
2SC2785
ACTIVE FILTER
Q003
2SC2785
VIDEO AMP
Q004
2SA1175
VIDEO AMP
Q005
2SA1175
VIDEO BUFFER
Q006
2SA1175
SYNC SEP
Q211
2SC2785
5V REG
D203
RD5.6EB
5V ZENER
D201 MC921
PROTECT
Q203
2SC2785
BUFFER
Q202
2SC2785
MODULATOR
Q201
2SC2785
V-BE COMPEN
Q204
2SC2785
BUFFER
Q205, 206
2SC2785
LPF
Q207
2SC2785
BUFFER
Q208
2SC2785
SWITCHING
Q106, 107
2SC2785
SWITCHING
Q103, 104
2SC2785
SWITCHING
Q105
2SA1175
SWITCHING
D103
1SS119
PROTECT
Q112
2SC2785
SWITCHING
Q113
2SA1175
SWITCHING
Q209, 210
2SC2785
LED DRIVE
Q212
2SC2785
TU AGC
SF001
SAWF
AGC
MUTE
VIDEO AMP
VIDEO DET
AFT DET
AGC DET
BUFFER
FM DET
LIMITER
SIF DET
T003
T004
T005
38.9MHz
T006
5.5MHz
TP-001
OUTPUT SW
MAT RIX
LOGIC
COMP.
SIF AMP
FM DET
PILOT AMP
PILOT DET
PHAS COMPARATOR 1
PHAS COMPARATOR 2
SELF BIAS CIRCUIT
SOURCE FOLLOWER
VOLTAGE CONTROLLED OSCILATOR
1/2
1/7
0, 1/57, 1/133
STEREO ID
RV201 47k
STEREO ID GAIN
RV202 2.2k
S108
TEST SIGNAL
ON ← OFF
CN204 (WHT)
1 RF PILOT WHT
2 GND BLK
TO RBM
CN001 (BLK)
1 TU VIDEO OUT BRN
2 GND RED
3 TEST SIG OUT ORG
4 TU EE IN YEL
5 HALF H IN WHT
TO RV-7 BOARD CN001
CN002 (WHT)
1 TU A 1 CH WHT
2 TU A 2 CH RED
3 GND BLK
4 PB 12V YEL
5 A MUTE PINK
6 RF SW BLU
7 CH-1 VIO
8 CH-2 GRY
TO AM-1 BOARD CN005
CN201 (BLK)
1 CH-1 SEL PINK
2 CH-2 SEL BLU
TO SW-11 BOARD CN402
CN203 (WHT)
1 AUDIO PILOT 1 BRN
2 AUDIO PILOT 2 RED
3 PB ST ORG
4 PB BI YEL
5 LN/CAM 5V PINK
6 LN/CAM ST BLU
7 LN/CAM BI VIO
8 PB 12V GRY
TO JR-2 BOARD CN702

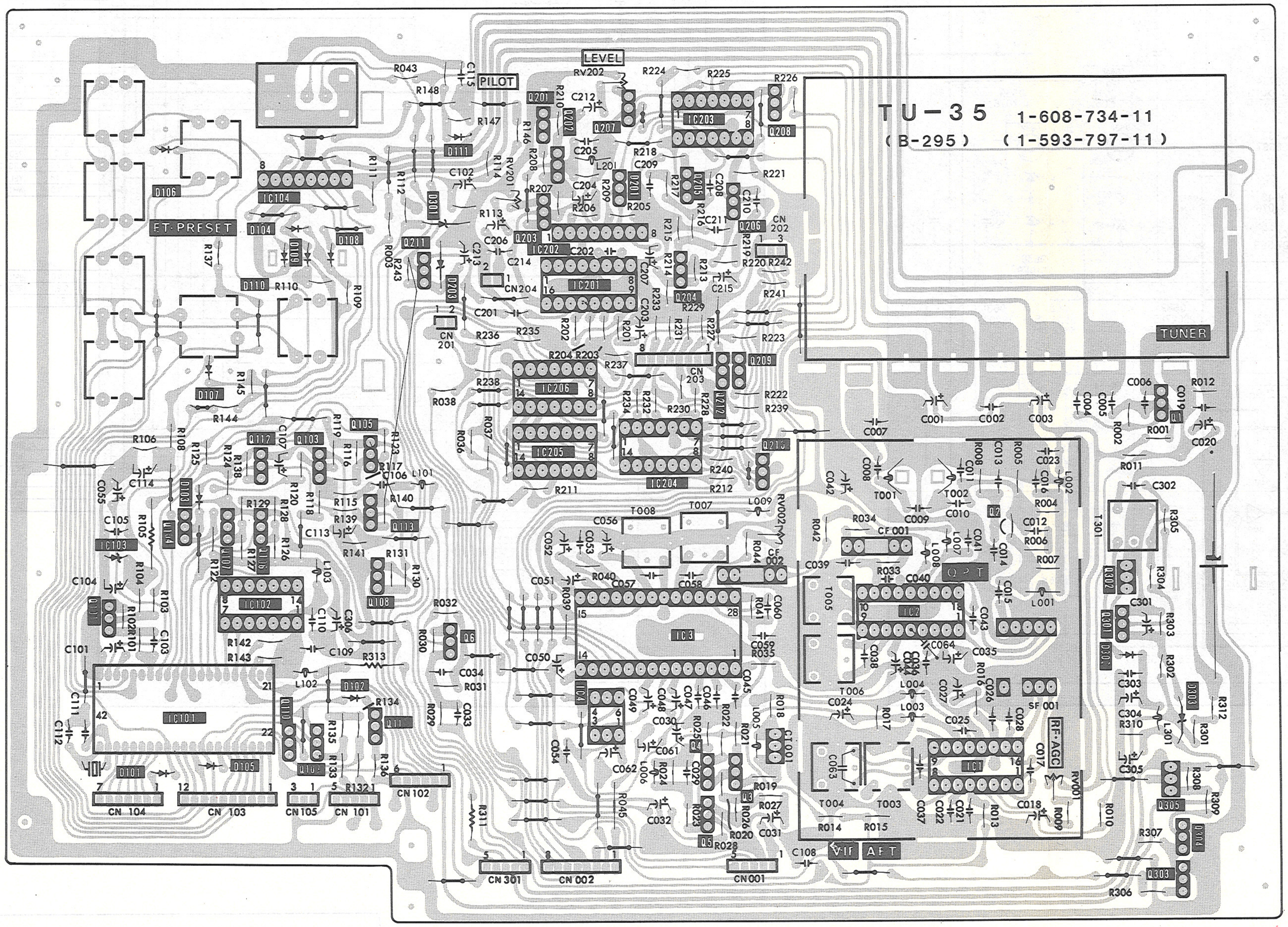
TU-35 (1/2) CH-33 MT-1 (TUNER, VIF, SIF, TUNING CONTROL)

3-40. PRINTED WIRING BOARD – *Ref. No. TU-35 BOARD: 5100 ~ 5300 series, CH-33 BOARD: 5500 series, MT-1 BOARD: 8100 series* –

–Conductor Side –

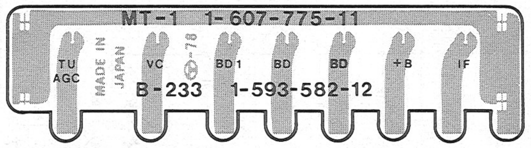
– TU-35 Board –

	A	B	C	D	E
IC, Q	IC103 101 104 IC101 107	112 106 IC102 IC104 110 103 109 105 113 108 111 211 006	201 202 203 IC206 IC205 IC201 IC202 207 IC004 IC204 IC003 205 204 IC203 212 004 005 206 209 003 208 210	IC002 IC001 002	302 301 001 305 304 303
D	106 107 103 101 105	104 110 109,108 102 301 111 203	201		302 303
ADJ		RV201	RV202 RV002	RV001	



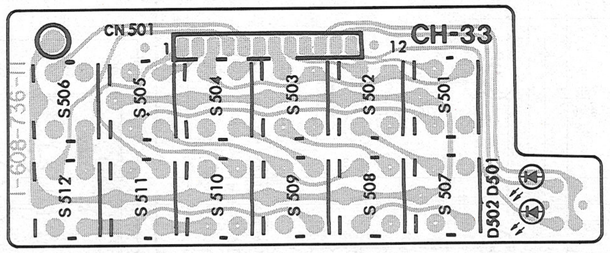
TU-35 1-608-734-11
(B-295) (1-593-797-11)
LEVEL
PILOT
FT. PRESET
TUNER
RF-AGC
VIF
AFT
CN 104
CN 103
CN 105
CN 101
CN 102
CN 301
CN 002
CN 001
IC101
IC102
IC104
IC201
IC202
IC203
IC204
IC205
IC206
IC1
IC2
IC3

– MT-1 Board –



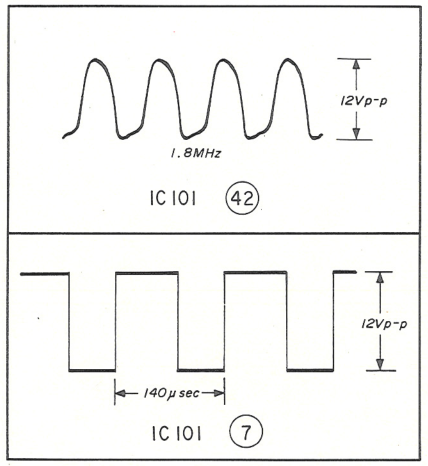
MT-1 1-607-775-11
MADE IN JAPAN
TU AGC
VC
BD 1
BD
BD
+B
IF
B-233
1-593-582-12

– CH-33 Board –



CN501
CH-33
1
12
S506
S505
S504
S503
S502
S501
S512
S511
S510
S509
S508
S507
D502
D501
1-608-736-11

TU-35 BOARD



3-41. SCHEMATIC DIAGRAM – *Ref. No. 8600 series* –

SR-11E

SR-11E [POWER SUPPLY]

A B C D E F G

Note:

- No mark: E-E mode
- [ ] : Voltages are measured from emitter of Q612.

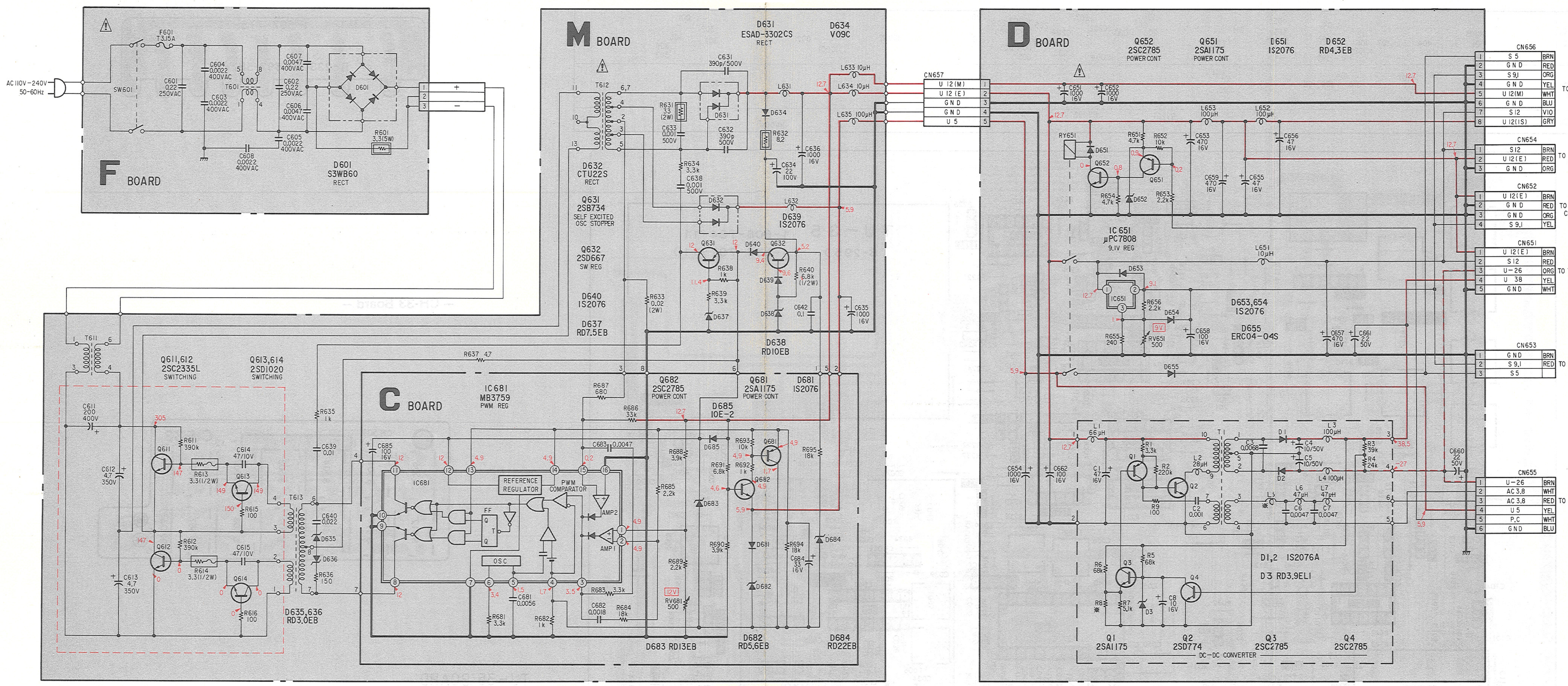
1

2

3

4

5

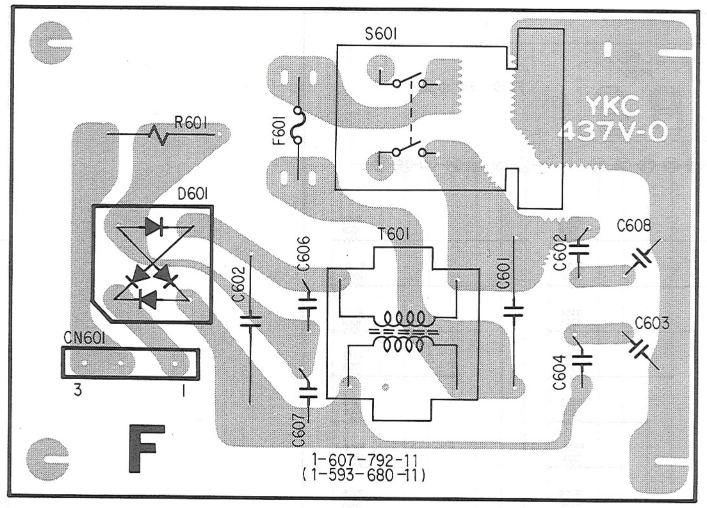

F BOARD
F601 T3.15A
SW601
AC 110V–240V 50–60Hz
C601 0.22 250VAC
C604 0.0022 400VAC
C603 0.0022 400VAC
T601
C607 0.0047 400VAC
C602 0.22 250VAC
C606 0.0047 400VAC
C605 0.0022 400VAC
C608 0.0022 400VAC
D601
R601 3.3(5W)
D601 S3WB60 RECT
M BOARD
T612
D631 ESAD-3302CS RECT
D634 V09C
C631 390p/500V
R631 33 (2W)
C633 0.001 500V
C632 390p 500V
L631
L633 10μH
L634 10μH
L635 100μH
R632 8.2
C636 1000 16V
C634 22 100V
R634 3.3k
C638 0.001 500V
D632 CTU22S RECT
Q631 2SB734 SELF EXCITED OSC STOPPER
Q632 2SD667 SW REG
D640 1S2076
D637 RD7.5EB
L632
D639 1S2076
R638 1k
R639 3.3k
R640 6.8k (1/2W)
R633 0.02 (2W)
C642 0.1
C635 1000 16V
D638 RD10EB
T611
Q611,612 2SC2335L SWITCHING
Q613,614 2SD1020 SWITCHING
C611 200 400V
C612 4.7 350V
C613 4.7 350V
R611 390k
R612 390k
R613 3.3(1/2W)
R614 3.3(1/2W)
C614 47/10V
C615 47/10V
R615 100
R616 100
R635 1k
C639 0.01
T613
C640 0.022
D635
D636
R636 150
D635,636 RD3.0EB
R637 47
C BOARD
IC681 MB3759 PWM REG
IC681
REFERENCE REGULATOR
PWM COMPARATOR
FF
OSC
AMP2
AMP1
C685 100 16V
R687 680
R686 33k
C683 0.0047
C681 0.0056
R681 3.3k
R682 1k
C682 0.0018
R683 3.3k
R684 18k
RV681 500
R688 3.9k
R685 2.2k
R689 2.2k
R690 3.9k
Q682 2SC2785 POWER CONT
Q681 2SA1175 POWER CONT
D681 1S2076
D685 10E-2
R693 10k
R691 6.8k
R692 1k
R695 18k
R694 18k
C684 33 16V
D683 RD13EB
D682 RD5.6EB
D684 RD22EB
CN657
U 12(M)
U 12(E)
GND
GND
U 5
D BOARD
Q652 2SC2785 POWER CONT
Q651 2SA1175 POWER CONT
D651 1S2076
D652 RD4.3EB
C651 1000 16V
C652 1000 16V
RY651
R651 4.7k
R652 10k
R654 4.7k
R653 2.2k
L653 100μH
L652 100μH
C653 470 16V
C656 47 16V
C659 470 16V
C655 47 16V
IC651 μPC7808 9.1V REG
L651 10μH
D653
R656 2.2k
D654
R655 240
RV651 500
C658 100 16V
D653,654 1S2076
D655 ERC04-04S
C657 470 16V
C661 2.2 50V
D655
C654 1000 16V
C662 100 16V
L1 66μH
R1 3.3k
C1 47 16V
R2 220k
L2 28μH
T1
C3 0.0068
D1
C4 10/50V
C5 10/50V
L3 100μH
R3 39k
R4 24k
R9 100
C2 0.001
D2
L6 47μH
L7 47μH
L4 100μH
C6 0.0047
C7 0.0047
C660 22 50V
R6 68k
R5 68k
R7 5.1k
R8
D3
C8 10 16V
D1,2 1S2076A
D3 RD3.9EL1
Q1 2SA1175
Q2 2SD774
Q3 2SC2785
Q4 2SC2785
DC-DC CONVERTER
CN656
S5
GND
S9.1
GND
U 12(M)
GND
S12
U 12(S)
BRN RED ORG YEL WHT BLU VIO GRY
TO SS-11 BOARD CN610
CN654
S12
U 12(E)
GND
TO AM-1 BOARD CN007
CN652
U 12(E)
GND
GND
S9.1
TO RBM CN101
CN651
U 12(E)
S12
U-26
U 38
GND
TO TU-35 BOARD CN301
CN653
GND
S9.1
S5
TO RV-7 BOARD CN002
CN655
U-26
AC3.8
AC3.8
U5
P.C
GND
TO TM-31 BOARD CN201

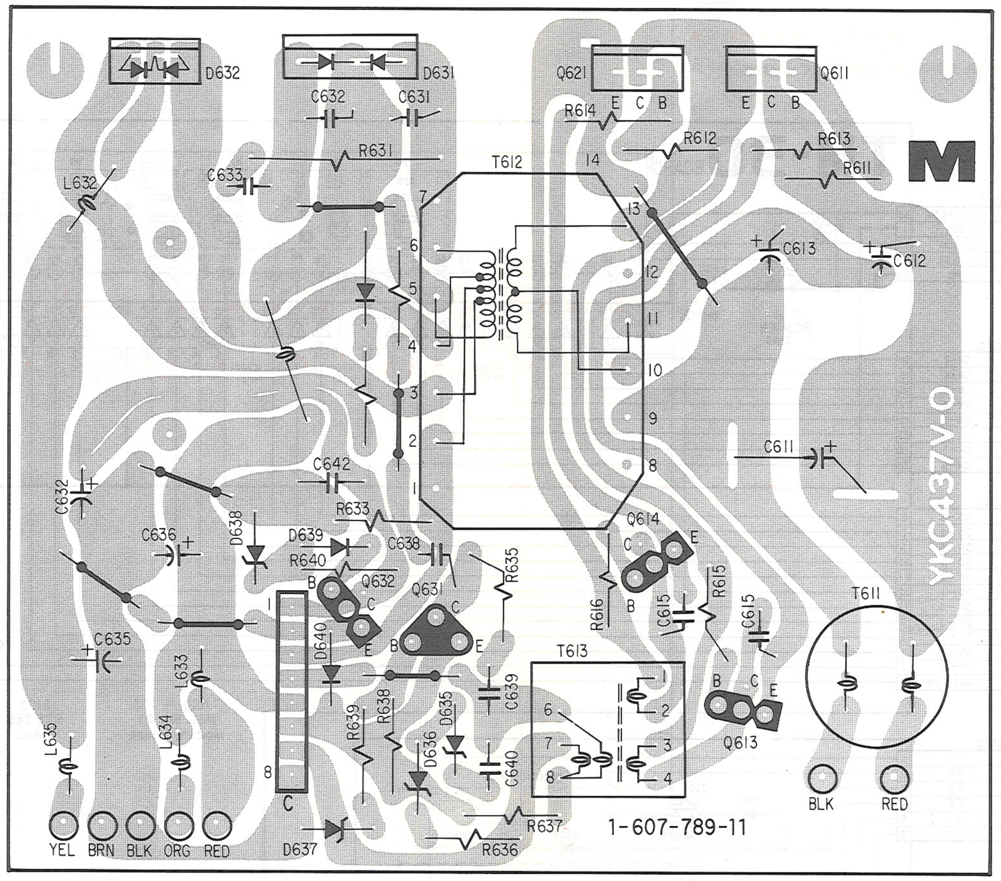
When indicating parts by reference number, please include the board name.

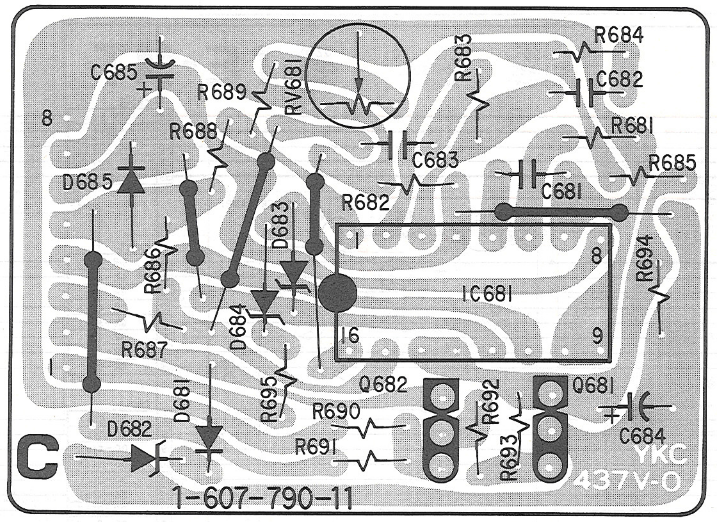
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

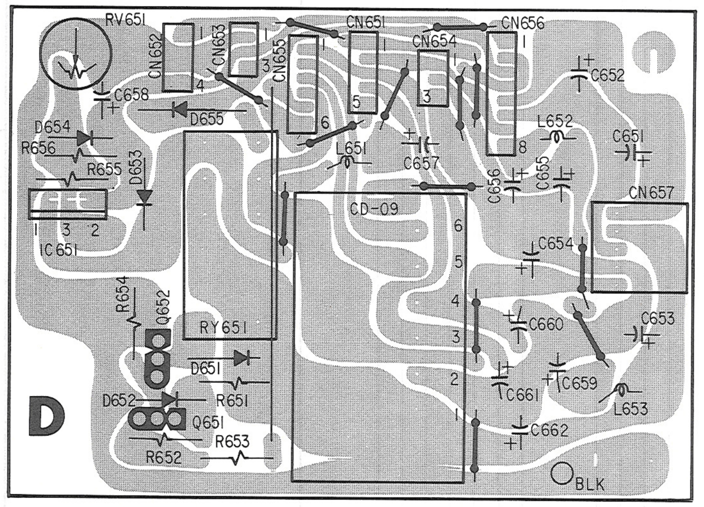
SR-11E **SR-11E** [POWER SUPPLY]

A
B
C
D
E
F
G
1
2
3
4
5

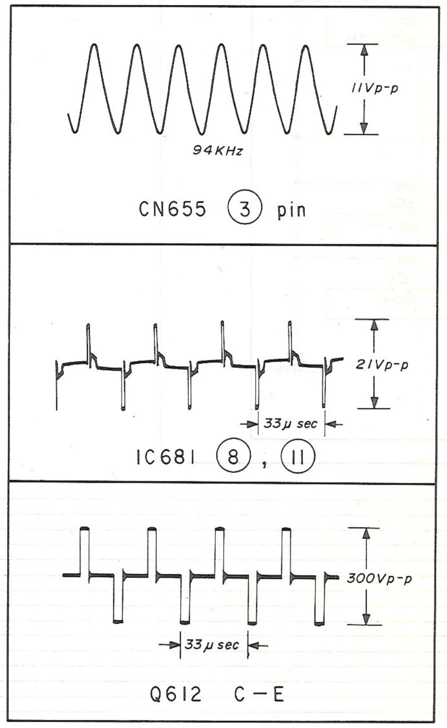

S601
YKC 437V-O
R601
F601
D601
T601
C606
C602
C601
C602
C608
C603
C604
C607
CN601
3
1
F
1-607-792-11
(1-593-680-11)


D632
D631
Q621
E C B
Q611
E C B
C632
C631
R614
R612
R613
R611
R631
T612
L632
C633
14
13
7
6
5
4
3
2
1
12
11
10
9
8
C613
C612
M
C611
YKC437V-O
C632
C642
R633
C636
D638
D639
R640
Q632
C638
Q631
R635
Q614
R616
C615
R615
C615
T611
C635
L633
D640
R639
R638
D635
D636
C639
C640
T613
Q613
L635
L634
C
8
D637
R637
R636
1-607-789-11
YEL
BRN
BLK
ORG
RED
BLK
RED

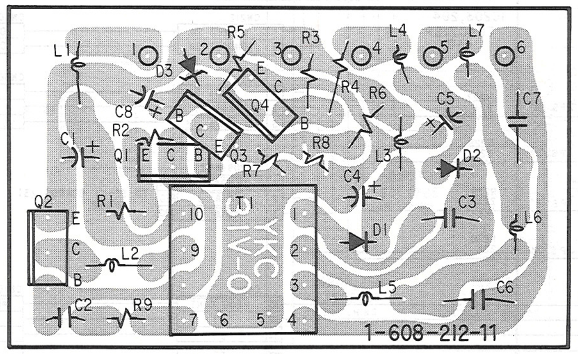

R684
C685
R689
RV681
R683
C682
8
R688
R681
C683
R685
D685
C681
R682
1
8
IC681
R686
D683
R694
D684
16
9
R687
Q682
Q681
1
D682
D681
R695
R690
R692
C684
R691
R693
C
1-607-790-11
YKC 437V-O


RV651
CN652
CN653
CN655
CN651
CN656
CN654
C652
C658
D655
D654
R656
R655
D653
L651
C657
L652
C651
IC651
1 3 2
CD-09
C656
C655
CN657
C654
R654
Q652
RY651
C660
C653
D651
R651
C661
C659
L653
D652
Q651
R653
C662
R652
BLK
D

SR IIE



DC-DC CONVERTER (CD-09)


L1
1
2
R5
3
R3
4
L4
5
L7
6
D3
E
C
Q4
R4
R6
C8
R2
B
C5
C7
C1
Q1
E C B
Q3
R7
R8
L3
D2
C4
R1
T1
YKC 311V-O
C3
Q2
E
C
B
10
9
L2
D1
L6
2
3
C2
R9
7 6 5 4
L5
C6
1-608-212-11

MEMO

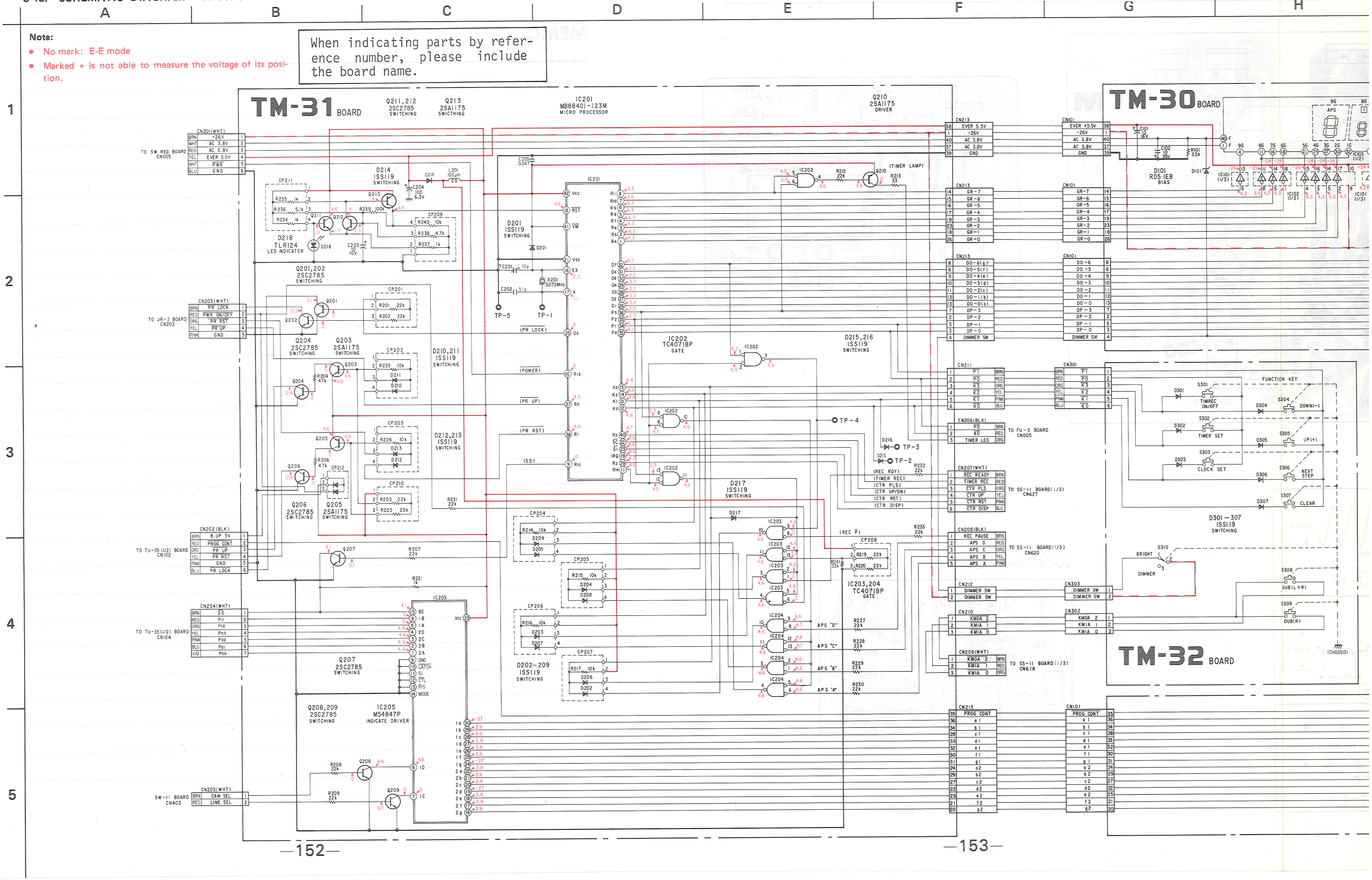
TM-30 **TM-31** **TM-32** [TIMER]

3-43. SCHEMATIC DIAGRAM — *Ref. No. TM-30 BOARD: 6100 series, TM-31 BOARD: 6200 series, TM-32 BOARD: 6300 series* —

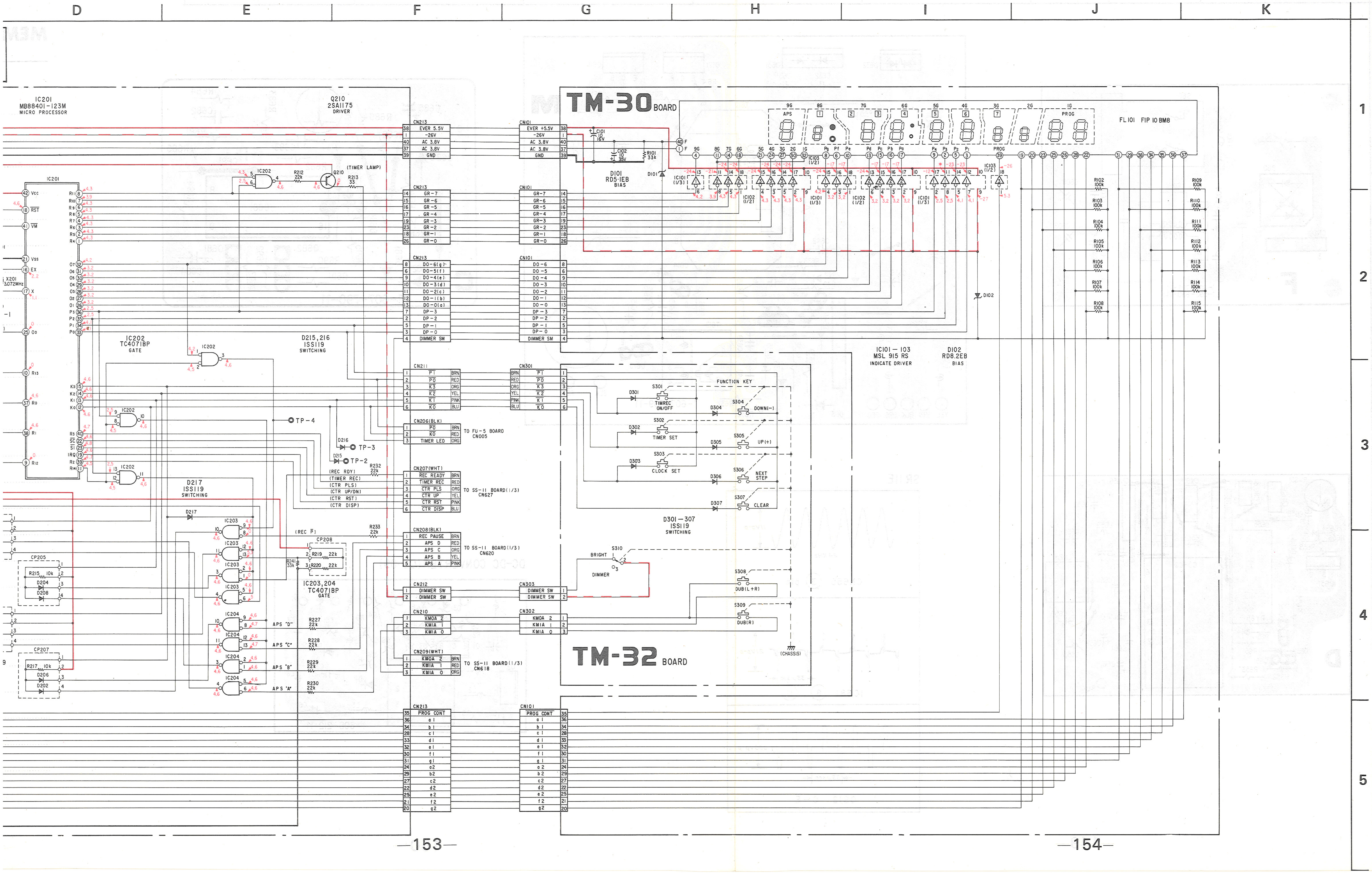
Note:

- No mark: E-E mode
- Marked * is not able to measure the voltage of its position.

When indicating parts by reference number, please include the board name.



A
B
C
D
E
F
G
H
1
2
3
4
5
TM-31 BOARD
Q211, 212 2SC2785 SWITCHING
Q213 2SA1175 SWITCHING
IC201 MB88401-123M MICRO PROCESSOR
Q210 2SA1175 DRIVER
TM-30 BOARD
TO SW REG BOARD CN005
CN201(WHT)
-26V
AC 3.8V
AC 3.8V
EVER 5.5V
PWR
GND
D214 ISS119 SWITCHING
L201 100μH
C204 100 6.3V
CP211
CP209
D218 TLR124 LED INDICATOR
D201 ISS119 SWITCHING
X201 3.072MHz
TP-5
TP-1
Q201, 202 2SC2785 SWITCHING
TO JR-2 BOARD CN203
CN203(WHT)
PR LOCK
PWR ON/OFF
PR RST
PR UP
GND
CP201
Q204 2SC2785 SWITCHING
Q203 2SA1175 SWITCHING
CP202
D210, 211 ISS119 SWITCHING
CP203
D212, 213 ISS119 SWITCHING
CP212
CP210
Q206 2SC2785 SWITCHING
Q205 2SA1175 SWITCHING
(PR LOCK)
(POWER)
(PR UP)
(PR RST)
(SD)
IC202 TC4071BP GATE
D215, 216 ISS119 SWITCHING
TP-4
TP-3
TP-2
D217 ISS119 SWITCHING
(TIMER LAMP)
(REC RDY)
(TIMER REC)
(CTR PLS)
(CTR UP/DN)
(CTR RST)
(CTR DISP)
(REC P)
CP204
CP205
CP206
CP207
CP208
D202-209 ISS119 SWITCHING
IC203, 204 TC4071BP GATE
APS "D"
APS "C"
APS "B"
APS "A"
TO TU-35 (1/2) BOARD CN102
CN202(BLK)
B.UP 5V
PROG CONT
PR UP
PR RST
GND
PR LOCK
Q207
TO TU-35 (1/2) BOARD CN104
CN204(WHT)
IC205
Q207 2SC2785 SWITCHING
Q208, 209 2SC2785 SWITCHING
IC205 M54847P INDICATE DRIVER
SW-11 BOARD CN403
CN205(WHT)
CAM SEL
LINE SEL
CN213
CN211
CN206(BLK)
TO FU-5 BOARD CN005
TIMER LED
CN207(WHT)
REC READY
TIMER REC
CTR PLS
CTR UP
CTR RST
CTR DISP
TO SS-11 BOARD (1/3) CN627
CN208(BLK)
REC PAUSE
APS D
APS C
APS B
APS A
TO SS-11 BOARD (1/3) CN620
CN212
DIMMER SW
CN210
KMOA 2
KMIA 1
KMIA 0
CN209(WHT)
TO SS-11 BOARD (1/3) CN618
PROG CONT
CN101
D101 RD5.1EB BIAS
IC101 (1/3)
IC102 (1/2)
IC103 (1/2)
APS
CN301
CN303
CN302
FUNCTION KEY
S301 TIMREC ON/OFF
S302 TIMER SET
S303 CLOCK SET
S304 DOWN(-)
S305 UP(+)
S306 NEXT STEP
S307 CLEAR
D301-307 ISS119 SWITCHING
S310
BRIGHT
DIMMER
S308 DUB(L+R)
S309 DUB(R)
(CHASSIS)
TM-32 BOARD


D
E
F
G
H
I
J
K
1
2
3
4
5
IC201
MB88401-123M
MICRO PROCESSOR
Q210
2SA1175
DRIVER
(TIMER LAMP)
IC202
TC4071BP
GATE
D215,216
1SS119
SWITCHING
D217
1SS119
SWITCHING
IC203,204
TC4071BP
GATE
TP-4
TP-3
TP-2
CP205
CP207
CP208
CN213
CN211
CN206(BLK)
CN207(WHT)
CN208(BLK)
CN212
CN210
CN209(WHT)
TO FU-5 BOARD CN005
TO SS-11 BOARD(1/3) CN627
TO SS-11 BOARD(1/3) CN620
TO SS-11 BOARD(1/3) CN618
EVER 5.5V
-26V
AC 3.8V
GND
GR-7
GR-6
GR-5
GR-4
GR-3
GR-2
GR-1
GR-0
DIMMER SM
REC READY
TIMER REC
CTR PLS
CTR UP
CTR RST
CTR DISP
REC PAUSE
APS D
APS C
APS B
APS A
DIMMER SW
PROG CONT
TM-30 BOARD
CN101
FL101 FIP 10 BM8
D101
RD5.1EB
BIAS
IC101-103
MSL 915 RS
INDICATE DRIVER
D102
RD8.2EB
BIAS
APS
PROG
CN301
CN303
CN302
FUNCTION KEY
S301 TIMREC ON/OFF
S302 TIMER SET
S303 CLOCK SET
S304 DOWN(-)
S305 UP(+)
S306 NEXT STEP
S307 CLEAR
S308 DUB(L+R)
S309 DUB(R)
S310
BRIGHT
DIMMER
D301-307
1SS119
SWITCHING
(CHASSIS)
TM-32 BOARD

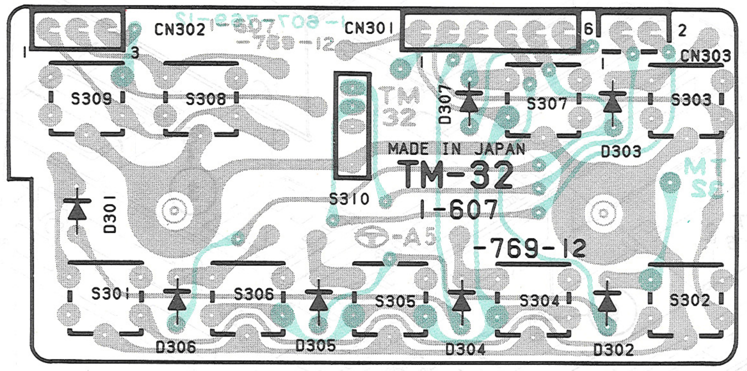
3-44. PRINTED WIRING BOARD

– Conductor Side –

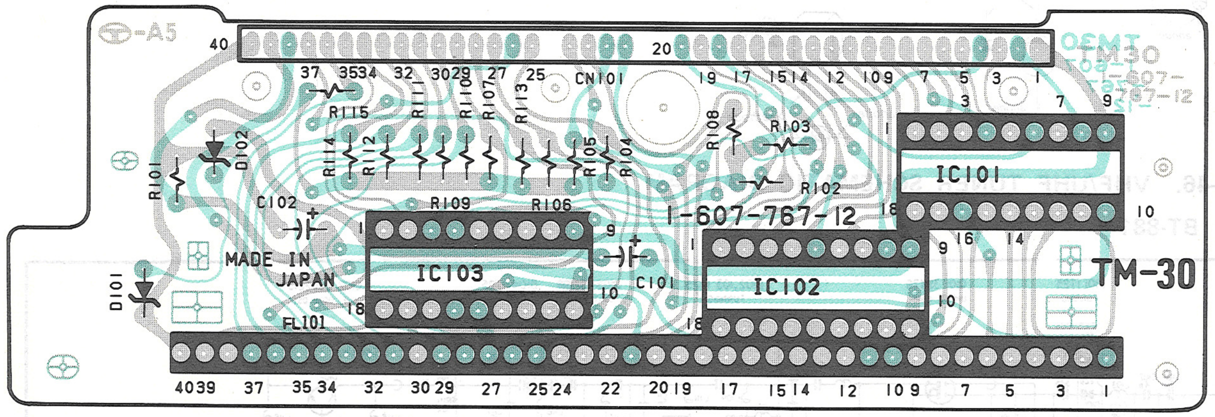
– Ref. No. TM-30 BOARD: 6100 series, TM-31 BOARD: 6200 series, TM-32 BOARD: 6300 series –

A B C D E F G H

– TM-32 Board –

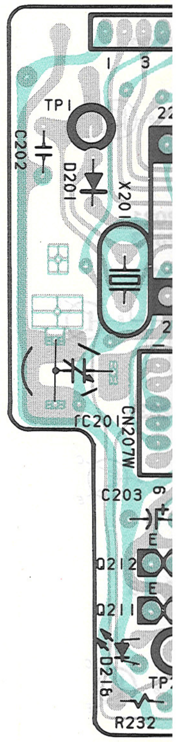

CN302
CN301
CN303
1
3
6
2
S309
S308
S307
S303
S310
D307
D303
D301
MADE IN JAPAN
TM-32
1-607-769-12
A5
S301
S306
S305
S304
S302
D306
D305
D304
D302

– TM-30 Board –

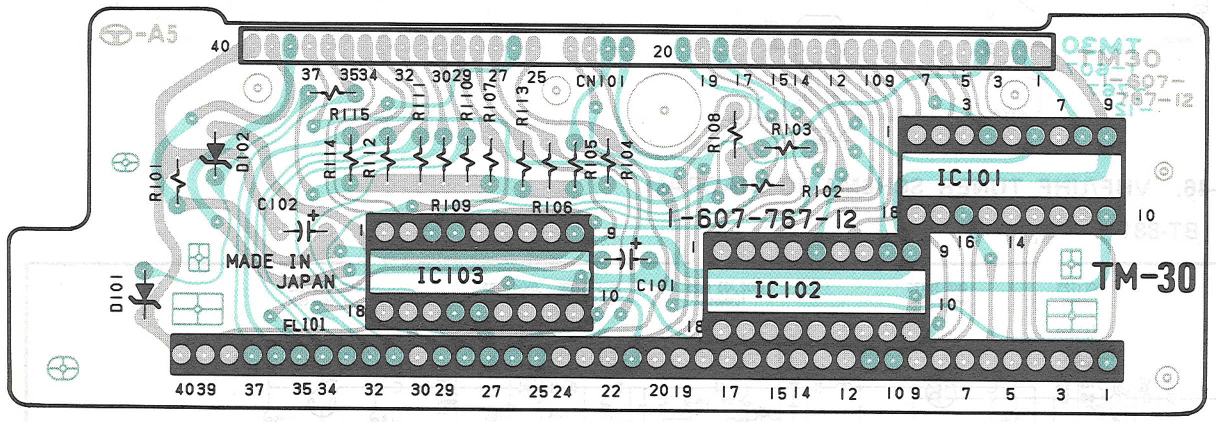

A5
40
20
CN101
37 35 34 32 30 29 27 25
19 17 15 14 12 10 9 7 5 3 1
R115
R114
R112
R111
R110
R107
R113
R105
R104
R108
R103
R102
R109
R106
R101
D102
D101
C102
C101
IC101
IC102
IC103
FL101
MADE IN JAPAN
1-607-767-12
TM-30
40 39 37 35 34 32 30 29 27 25 24 22 20 19 17 15 14 12 10 9 7 5 3 1

– TM-31

Q·IC	
D	201 218
TP	1

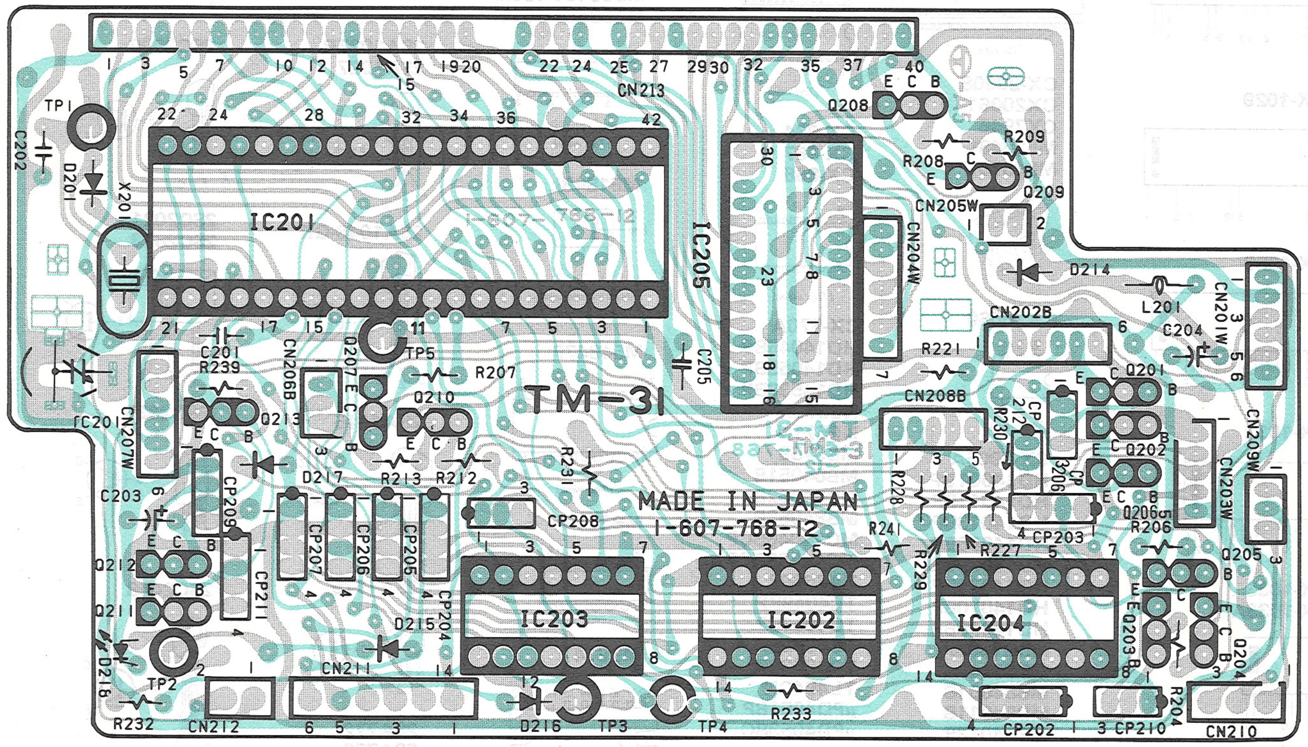

TP1
C202
D201
X201
CN201W
FC201
C203
Q212
Q211
D218
R232

– TM-30 Board –

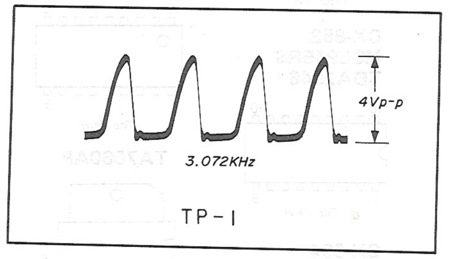

TM-30
1-607-767-12
MADE IN JAPAN
IC101
IC102
IC103
CN101
FL101
D101
D102
R101
R102
R103
R104
R105
R106
R107
R108
R109
R110
R111
R112
R113
R114
R115
C101
C102
-A5
40
20
1
4039 37 35 34 32 30 29 27 25 24 22 20 19 17 15 14 12 10 9 7 5 3 1

– TM-31 Board –

Q·IC	212 211 213 207 IC201 210 IC203 IC205 IC202 208 209 IC204 201 202 206 205 203 204
D	201 218 217 215 216 214
TP	1 2 5 3 4

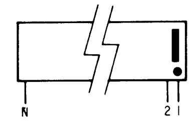

TM-31
1-607-768-12
MADE IN JAPAN
IC201
IC202
IC203
IC204
IC205
CN213
CN205W
CN204W
CN202B
CN201W
CN208B
CN209W
CN203W
CN206B
CN207W
CN211
CN212
CN210
X201
L201
TP1
TP2
TP3
TP4
TP5
Q201
Q202
Q203
Q204
Q205
Q206
Q208
Q209
Q210
Q211
Q212
Q213
D201
D214
D215
D216
D217
D218
C201
C202
C203
C204
C205
CP202
CP203
CP205
CP206
CP207
CP208
CP209
CP210
CP211
R204
R206
R207
R208
R209
R212
R213
R221
R227
R228
R229
R230
R231
R232
R233
R239
R241

TM-31 BOARD

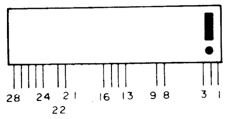


3-45. SEMICONDUCTORS

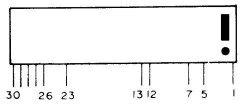
BX-1013
BX-1016
BX-1038
BX-3976
BX-3978
BX-3983



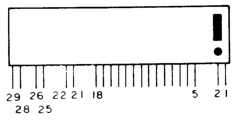
BX-1028


28 24 21 16 13 9 8 3 1
22

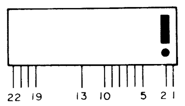
BX-1029


30 26 23 13 12 7 5 1

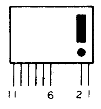
BX-1030


29 26 22 21 18 5 2 1
28 25

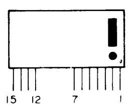
.BX-1032


22 19 13 10 5 2 1

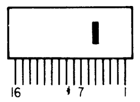
BX-1033
BX-1033A



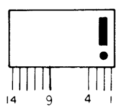
BX-1034
BX-1034A



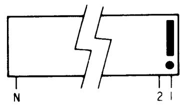
BX-1039



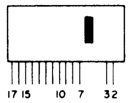
BX-1043



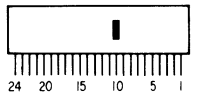
BX-1047



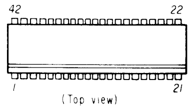
BX-3980



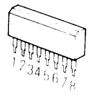
BX-3981


24 20 15 10 5 1

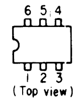
CX-194A
CX-194B-0


42
22
1
21
(Top view)

CX-20008
CX20061
CX7946
M51848L
M54570L



CX20060


6 5 4
1 2 3
(Top view)

CX-7905A
HD14001BP
HD14011BP
HD14013BP
HD14066BP
HD14069UBP
HD14071BP
HD14070BP
HD14075BP
M5G1400P
MB3614
MB84001B
MB84011B
MB84013B
MB84066B
MB84069UBP
MB84070B
MB84075B
MB84081C
TC4001BP
TC4011BP
TC4013BP
TC4030BP
TC4066BP
TC4069UBP
TC4071BP
TC4075BP
TC4081BP
TC40H004P
TC5026BP
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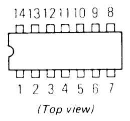
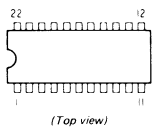
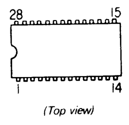
µPD4071BC
µPD4075BC
µPD4081BC


14 13 12 11 10 9 8
1 2 3 4 5 6 7
(Top view)

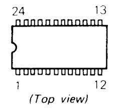
CX-7926
CX-7927


22
12
1
11
(Top view)

CX-863
CX863A
CX-866
CX-866A
CX-869
TDA3800S
µPD652C040


28
15
1
14
(Top view)

CX-864
CX-867
CX-868


24
13
1
12
(Top view)

CX-870A
HD14046BP
HD14053BP
HD14538BP
NES70N
NE571N
MB3759
MB84051B
MB84052B
MB84053B
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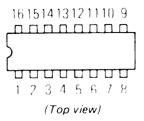
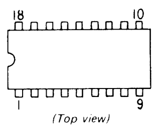
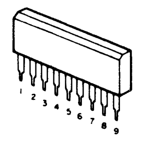
TL494CN
µPD4051BP
µPD4053BC


16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
(Top view)

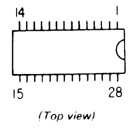
CX-882
MSL915RS
TDA2546


18
10
1
9
(Top view)

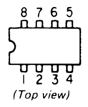
CX-894



HD38757A05


14
1
15
28
(Top view)

NJM2903D
NJM4558D
µPC393C
µPC4558C


8 7 6 5
1 2 3 4
(Top view)

M50118AP
MB88401-123M
MB88401-127M
MB88401-128M
MB88401-129M
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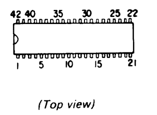
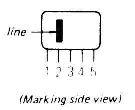
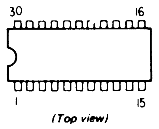
MB88401-180M
MB88401-181M


42 40 35 30 25 22
1 5 10 15 21
(Top view)

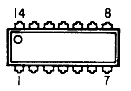
M51848L


line
1 2 3 4 5
(Marking side view)

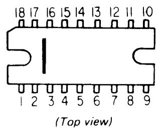
M54847P


30
16
1
15
(Top view)

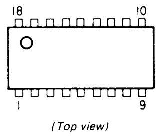
MB3759



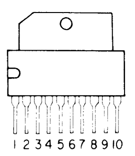
MB8747


18 17 16 15 14 13 12 11 10
1 2 3 4 5 6 7 8 9
(Top view)

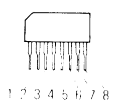
MB8758


18
10
1
9
(Top view)

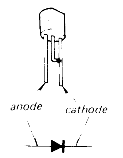
TA7060AP


1 2 3 4 5 6 7 8 9 10

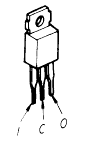
µPC1373H
µPC1391H



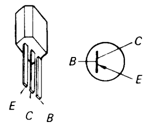
µPC574J


anode
cathode

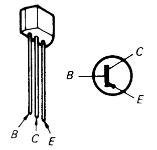
µPC7808H



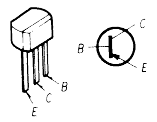
2SA1027R
2SA1027



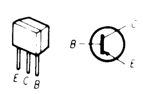
2SA1048-GR



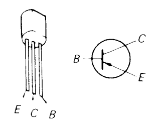
2SA1115



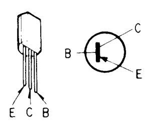
2SA1175



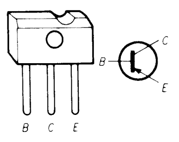
2SA772
2SA773



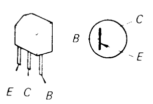
2SA844
2SB740



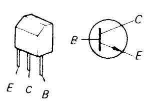
2SA881



2SB733
2SB733U2
2SB734
2SB772



2SD773



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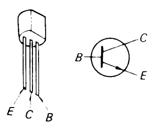
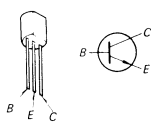
2SC1474
2SD786
2SD677A
2SD788



2SC2009



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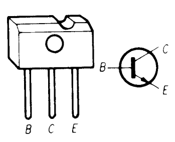
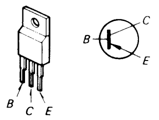
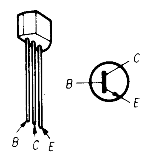
2SC2673



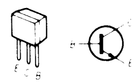
2SC2335



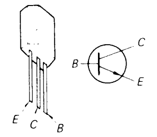
2SC2458



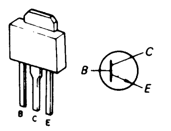
2SC2785



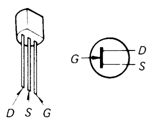
2SC403SP
2SC2603



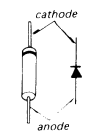
2SD1164



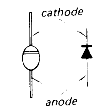
2SK152-2



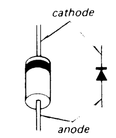
10E1
10E2
1S1555
1S1585
1S2076A
RD3.0E-B
RD3.9E-L1
RD4.3E-B2
RD5.1E-B
RD5.1EB3
RD5.6EB1
RD5.6E-B2
RD7.5E-B
RD8.2E-B
RD10E-B
RD10E-B1
RD10E-B2
RD10E-B3
RD10E-N2
RD13E-B
RD13E-B1
RD22E-B3
RD24E-B2
RD24E-B2Z


cathode
anode

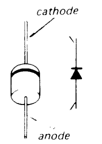
V09G
U05G


cathode
anode

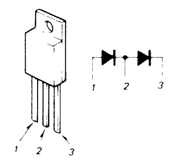
1SS106
1SS133
1SS148
ERB12-01RK
ERB12-02RK
ERB12-04RK
ERB81-004
GP08B
GP08D
GP08G


cathode
anode

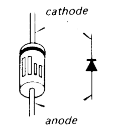
1SS119


cathode
anode

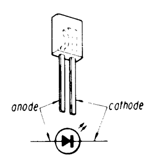
ESAD33-02CS
CTU22S



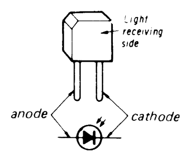
ERC04-04S


cathode
anode

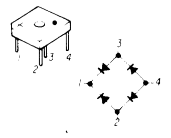
PG5531KY-3


anode
cathode

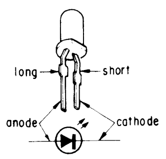
PH302B


Light receiving side
anode
cathode

S3WB60Z

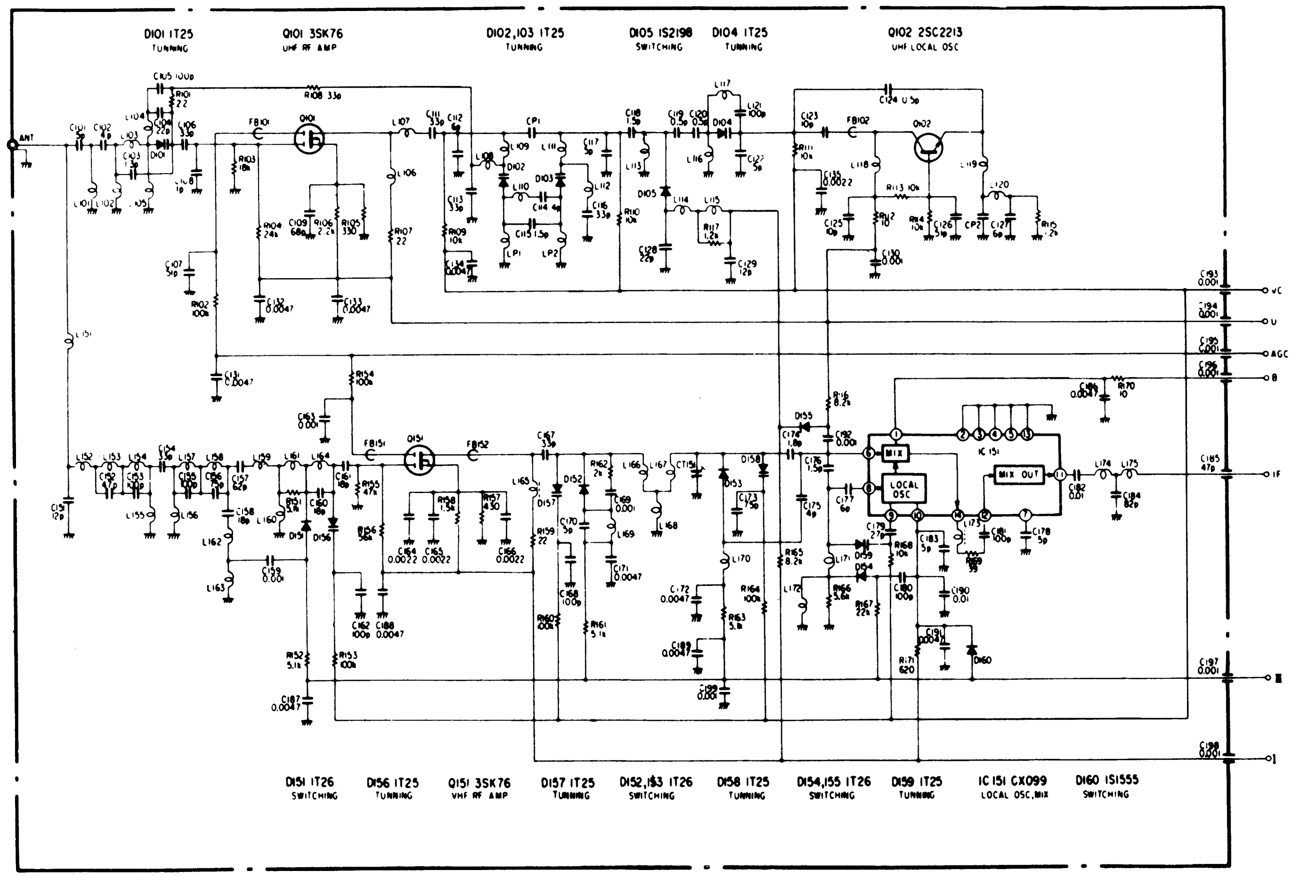


TLG123A
TLR123
TLR124
TLO123


long
short
anode
cathode

3-46. VHF/UHF TUNER SCHEMATIC DIAGRAM

- **BT-881**


D101 1T25
TUNNING
Q101 3SK76
UHF RF AMP
D102,103 1T25
TUNNING
D105 1S2198
SWITCHING
D104 1T25
TUNNING
Q102 2SC2213
UHF LOCAL OSC
ANT
VC
U
AGC
B
IF
III
I
MIX
LOCAL OSC
MIX OUT
IC151
D151 1T26
SWITCHING
D156 1T25
TUNNING
Q151 3SK76
VHF RF AMP
D157 1T25
TUNNING
D152,153 1T26
SWITCHING
D158 1T25
TUNNING
D154,155 1T26
SWITCHING
D159 1T25
TUNNING
IC151 CX099
LOCAL OSC,MIX
D160 1S1555
SWITCHING

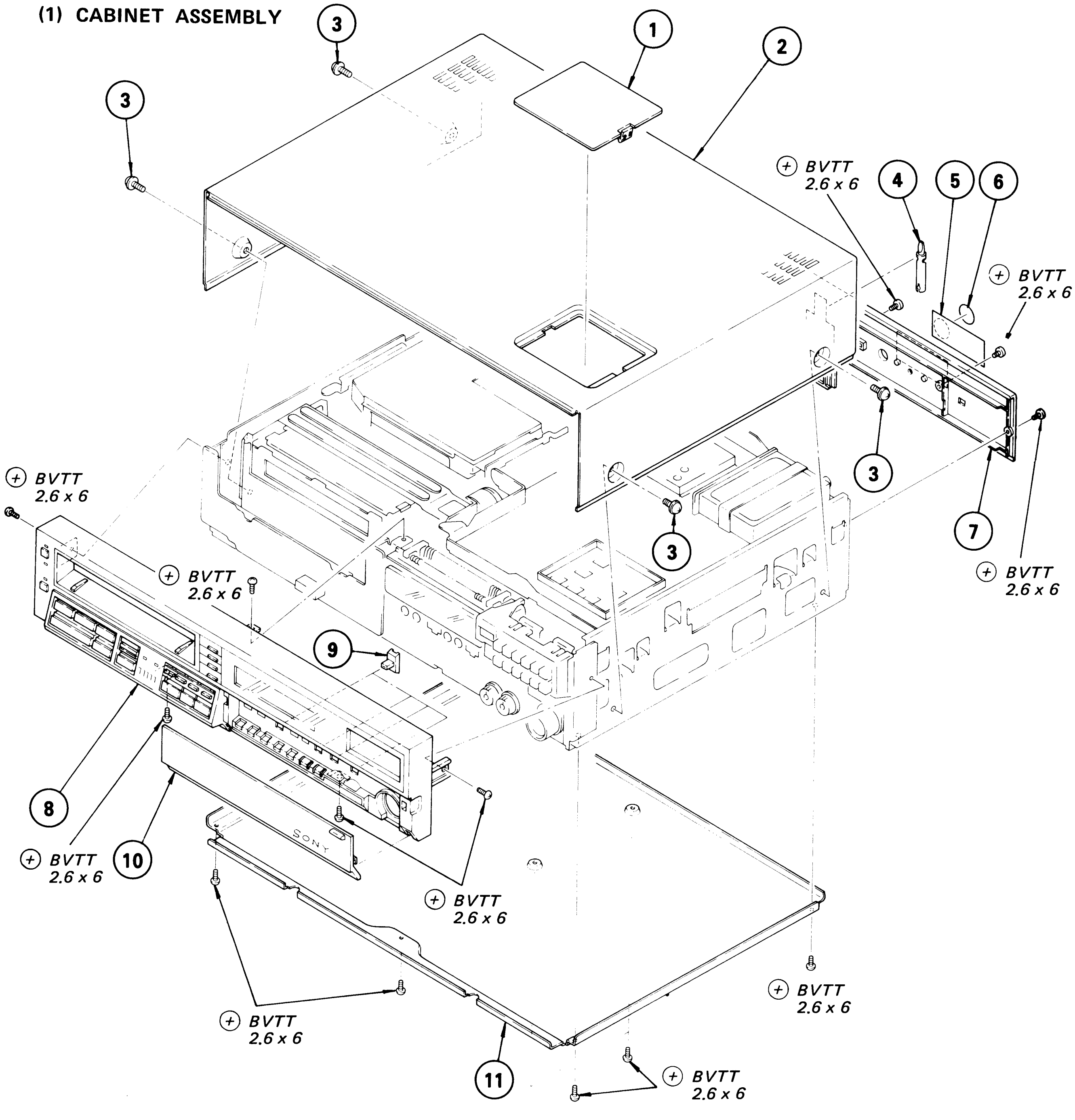
Note: Tuner reference numbers are not included in the Electrical Parts List.

SECTION 4
EXPLODED VIEWS

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ♠ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

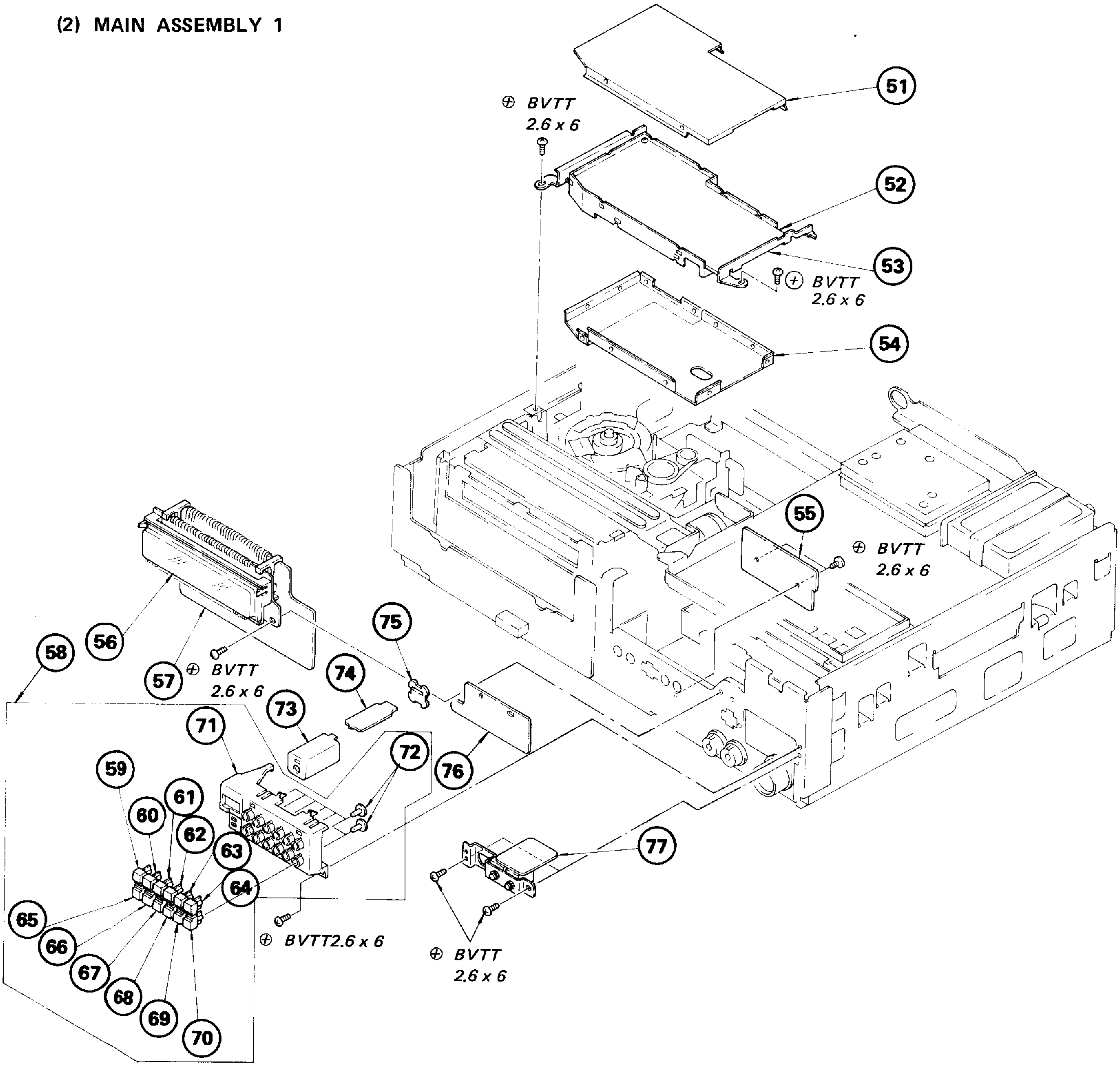
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(1) CABINET ASSEMBLY


3
3
1
2
⊕ BVTT 2.6 x 6
4
5
6
⊕ BVTT 2.6 x 6
3
3
7
⊕ BVTT 2.6 x 6
⊕ BVTT 2.6 x 6
⊕ BVTT 2.6 x 6
9
8
⊕ BVTT 2.6 x 6
10
SONY
⊕ BVTT 2.6 x 6
⊕ BVTT 2.6 x 6
⊕ BVTT 2.6 x 6
11
⊕ BVTT 2.6 x 6

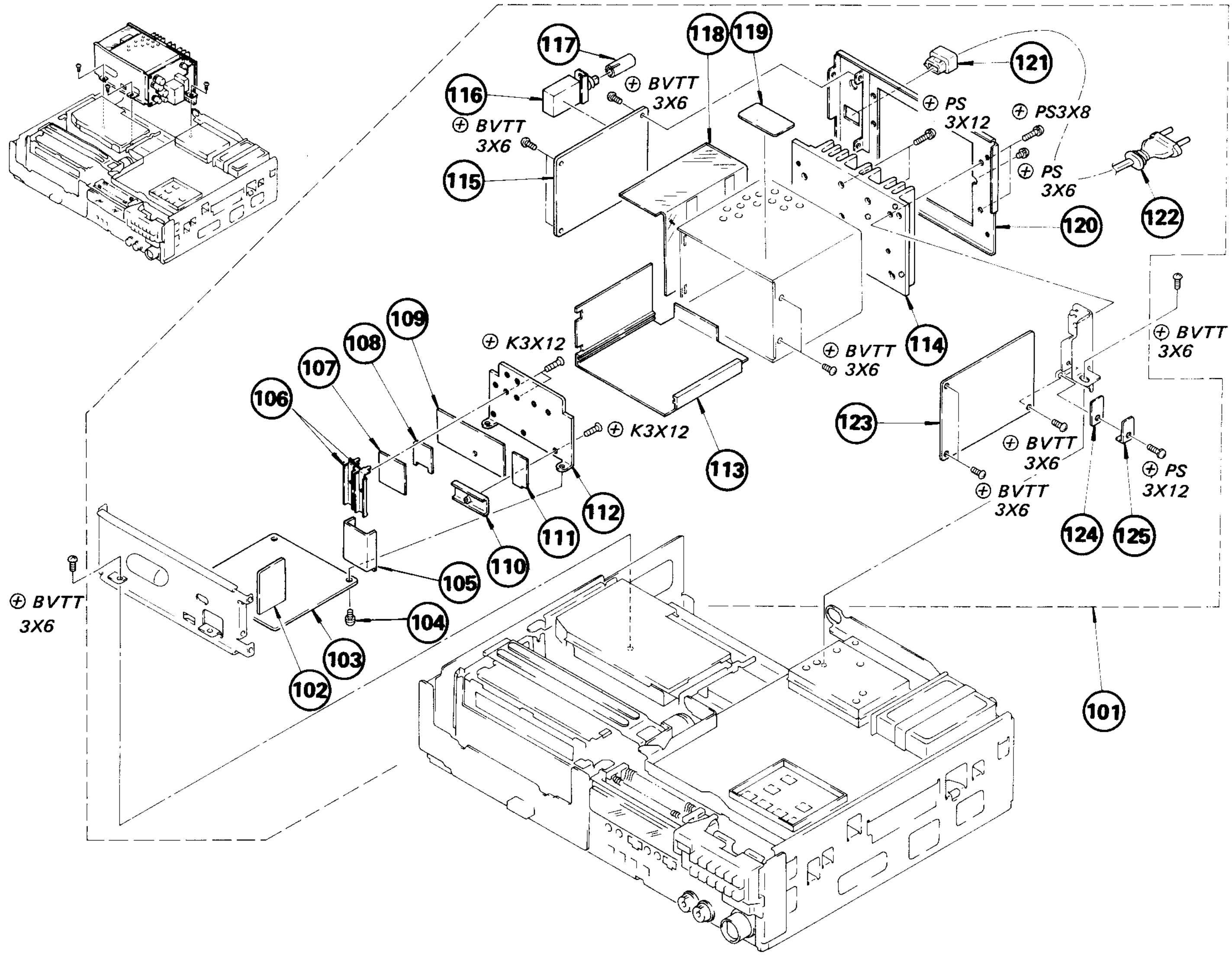
No.	Part No.	Description	Remark
1	3-675-509-00	DOOR, PRESET	
2	X-3670-079-0	CASE ASSY, UPPER	
3	3-703-354-11	SCREW (OS), CASE, CLAW	
4	3-656-301-00	SCREWDRIVER, CONTROL	
5	♠:3-677-901-01	LABEL, MODEL NUMBER	
6	♠:3-656-407-00	LABEL, F MARK	
7	3-675-535-11	PANEL, REAR	
8	X-3670-901-0	PANEL ASSY, FRONT	9
9	3-674-377-00	BUTTON, SLIDE	
10	X-3670-902-0	DOOR ASSY, FRONT	
11	♠:X-3670-091-0	PLATE ASSY, BOTTOM	

(2) MAIN ASSEMBLY 1


51
⊕ BVTT 2.6 x 6
52
53
⊕ BVTT 2.6 x 6
54
55
⊕ BVTT 2.6 x 6
56
57
⊕ BVTT 2.6 x 6
58
75
74
73
71
72
76
59
61
60
62
63
64
77
65
66
67
68
69
70
⊕ BVTT2.6 x 6
⊕ BVTT 2.6 x 6

No.	Part No.	Description	Remark
51	🌢:3-675-568-00	LID, UPPER, RP SHIELD CASE	
52	🌢:A-6711-356-A	RP-7 BOARD, COMPLETE	
53	🌢:3-675-567-00	CASE (MAIN), SHIELD, RP	
54	🌢:X-3670-092-0	LID ASSY, BOTTOM, RP SHIELD CASE	
55	🌢:1-607-769-00	TM-32 BOARD	
56	🌢:1-607-767-00	TM-30 BOARD	
57	🌢:1-607-768-00	TM-31 BOARD	
58	A-6734-155-A	TUNING BLOCK ASSY	59,60,61,62,63,64,65 66,67,68,69,70,71,72
59	2-364-706-01	BUTTON (1), CHANNEL	
60	2-364-715-01	BUTTON (2), CHANNEL	
61	2-364-716-01	BUTTON (3), CHANNEL	
62	2-364-717-01	BUTTON (4), CHANNEL	
63	2-364-718-01	BUTTON (5), CHANNEL	
64	3-675-529-00	BUTTON (10, 20), CHANNEL	
65	3-675-531-00	BUTTON (6) (VT), CHANNEL	
66	2-364-720-01	BUTTON (7), CHANNEL	
67	2-364-721-01	BUTTON (8), CHANNEL	
68	2-364-722-01	BUTTON (9), CHANNEL	
69	3-675-532-00	BUTTON (0), CHANNEL	
70	3-675-529-11	BUTTON (10, 20), CHANNEL	
71	🌢:3-675-542-00	HOLDER, CHANNEL BUTTON	
72	3-669-528-00	CAP, BUTTON	
73	🌢:4-342-117-00	CASE, SHIELD (MAIN), R	
74	🌢:1-606-794-00	N BOARD	
75	🌢:4-342-118-00	LID, SHIELD CASE, R	
76	🌢:1-607-736-00	CH-33 BOARD	
77	🌢:1-607-774-00	HM-1 BOARD	

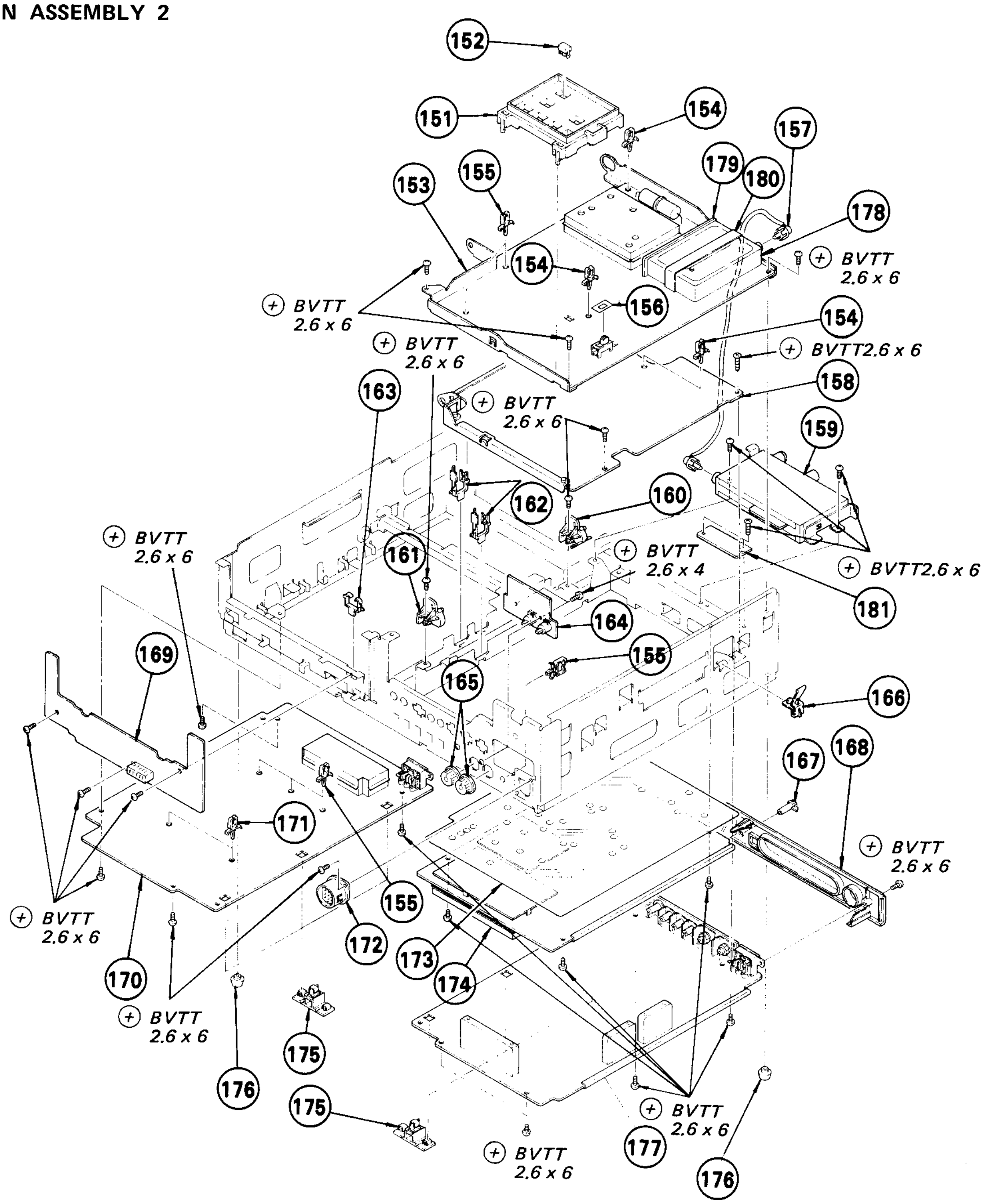
(3) POWER SUPPLY (SR-11E) ASSEMBLY


117
118
119
121
116
⊕ BVTT 3X6
⊕ BVTT 3X6
⊕ PS 3X12
⊕ PS3X8
⊕ PS 3X6
115
120
122
⊕ BVTT 3X6
109
108
107
106
⊕ K3X12
⊕ BVTT 3X6
114
⊕ K3X12
123
113
⊕ BVTT 3X6
⊕ PS 3X12
⊕ BVTT 3X6
112
111
110
105
124
125
⊕ BVTT 3X6
104
103
102
101

No.	Part No.	Description	Remark
101	⚠ 1-413-105-11	POWER BLOCK (SR11E)	102-125
102	♠:1-607-790-11	C BOARD	
103	♠:1-607-789-11	M BOARD	
104	2-430-772-01	SCREW, +PSW 3X8	
105	2-430-267-01	COVER, INSULATING	
106	♠:2-430-799-01	RETAINER, TRANSISTOR	
107	2-430-209-01	SHEET, RUBBER	
108	2-430-944-01	PLATE, COPPER	
109	2-430-271-01	SHEET, RUBBER	
110	♠:2-430-746-01	RETAINER, DIODE	
111	2-430-270-01	SHEET, RUBBER	
112	2-430-943-01	HEAT SINK	
113	♠:2-430-266-01	HOLDER, PCB	
114	2-430-942-01	HEAT SINK	
115	♠:1-607-792-11	F BOARD	
116	⚠ 1-553-834-11	PUSH SWITCH	
117	4-334-115-01	KNOB, CLOCK-D	
118	2-430-268-01	COVER, F BOARD	
119	2-439-042-01	LABEL, MODEL NUMBER	
120	♠:2-403-497-01	PANEL	
121	⚠.3-703-244-02	STOPPER, CORD	
122	⚠ 1-534-817-12	CORD, POWER	
123	♠:1-607-791-11	D BOARD	
124	2-430-269-01	SHEET, RUBBER	
125	♠:2-430-945-01	RETAINER, IC	

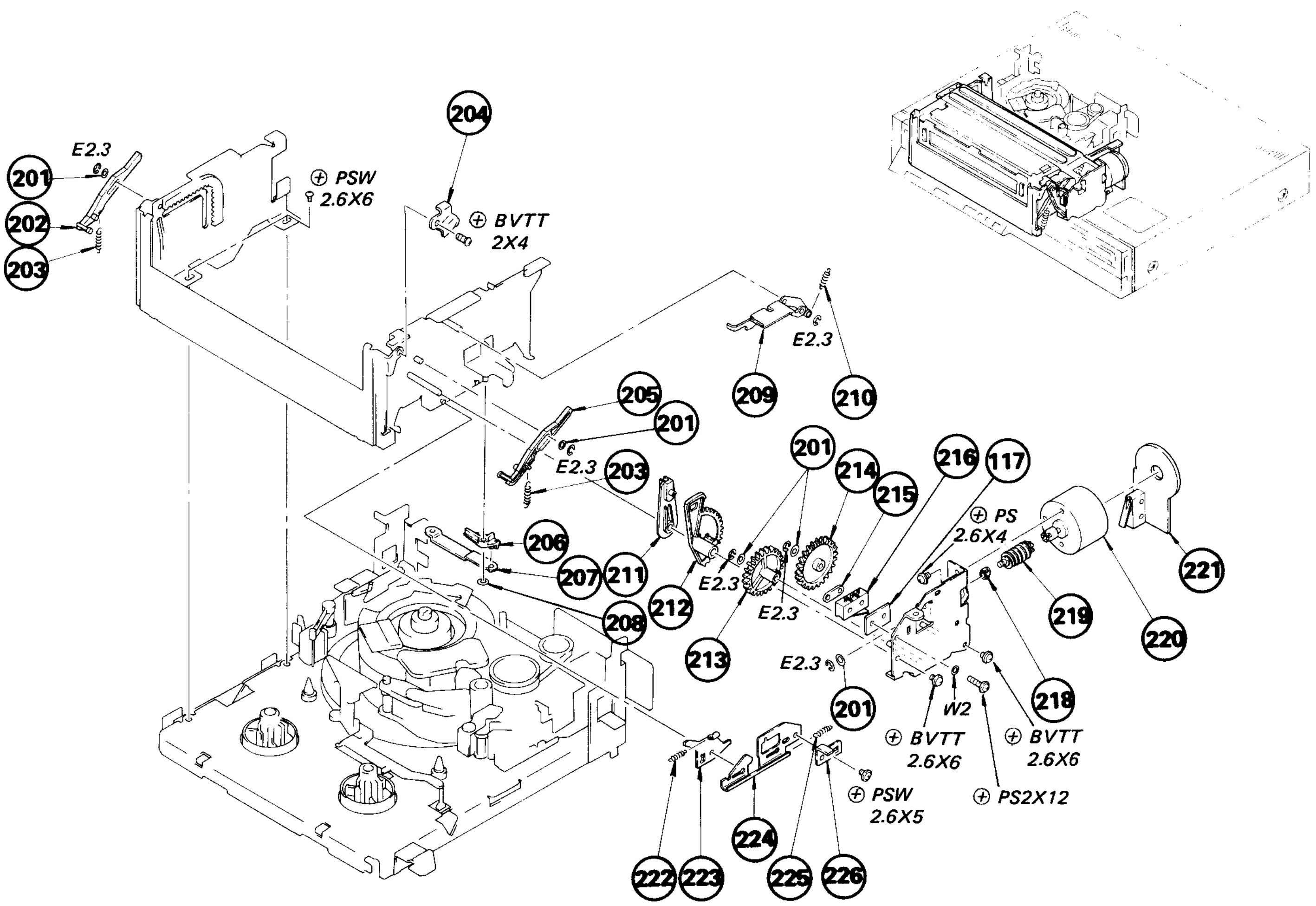
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(4) MAIN ASSEMBLY 2


152
151
154
157
179
180
153
155
178
⊕ BVTT 2.6 x 6
154
⊕ BVTT 2.6 x 6
156
⊕ BVTT 2.6 x 6
154
⊕ BVTT2.6 x 6
163
⊕ BVTT 2.6 x 6
158
159
162
160
⊕ BVTT 2.6 x 6
161
⊕ BVTT 2.6 x 4
⊕ BVTT2.6 x 6
181
164
169
155
165
166
167
168
171
⊕ BVTT 2.6 x 6
155
⊕ BVTT 2.6 x 6
172
173
174
170
⊕ BVTT 2.6 x 6
175
176
175
⊕ BVTT 2.6 x 6
177
⊕ BVTT 2.6 x 6
176

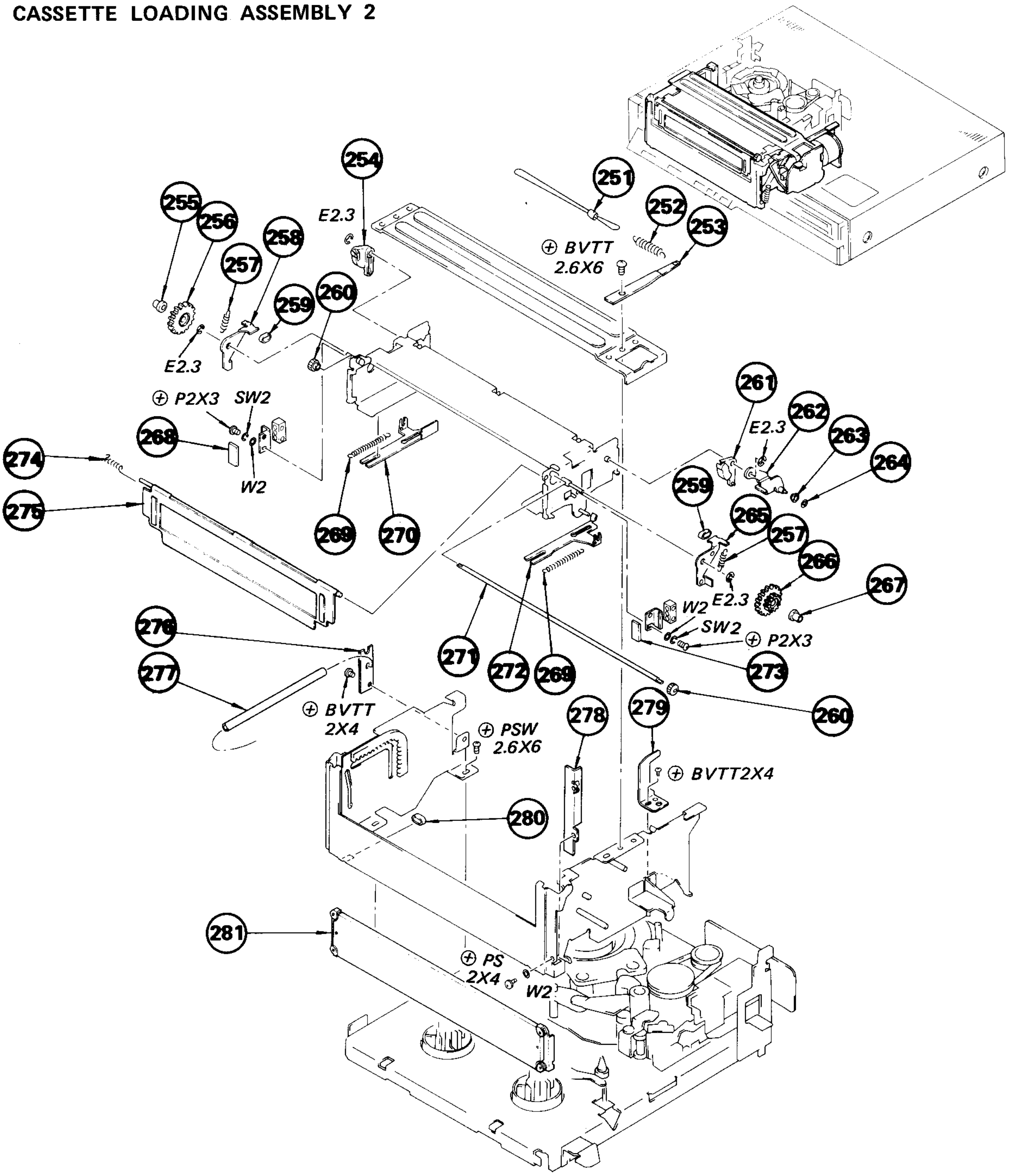
No.	Part No.	Description	Remark
151	A-6734-153-A	PANEL ASSY, PRESET	152
152	3-662-243-00	BUTTON, PRESET	
153	♠:A-6721-154-A	TU-35 BOARD, COMPLETE	
154	♠:3-644-407-00	CLIP, AC WIRE E	
155	♠:3-655-214-00	CLIP, CABLE	
156	3-662-259-00	CLOTH, MASKING	
157	♠:1-555-716-61	CABLE, PIN	
158	♠:A-6715-174-A	JR-2 BOARD, COMPLETE	
159	⚠.1-464-242-00	BOOSTER, MODULATOR (RBM-115-ES)	
160	♠:3-674-386-00	HINGE (B), JR	
161	♠:3-674-385-00	HINGE (A), JR	
162	♠:3-701-822-00	HOLDER, WIRE	
163	♠:4-310-385-00	HOLDER, WIRE	
164	♠:1-607-770-00	SW-11 BOARD	
165	3-675-520-00	BUTTON, TRACK CONTROL	
166	♠:4-308-891-00	SUPPORTER, CHASSIS	
167	3-670-149-00	KNOB, V SYNCHRONOUS	
168	3-675-537-00	PANEL, CONNECTOR	
169	♠:A-6717-301-A	FU-5 (ES) BOARD, COMPLETE	
170	♠:A-6715-153-A	SS-11 BOARD, COMPLETE	
171	♠:4-309-753-01	CLIP, CABLE	
172	♠:1-933-483-00	HARNESS (CA-5)	
173	♠:3-675-570-00	SHEET, INSULATING	
174	♠:A-6713-152-A	AM-1 (ES) BOARD, COMPLETE	
175	♠:3-671-187-00	CLIP, ANCHOR	
176	3-670-155-00	LEG	
177	♠:A-6711-392-A	RV-7 (ES) BOARD, COMPLETE	
178	⚠.1-463-350-00	TUNER (BT-881)	
179	♠:1-607-775-00	MT-1 BOARD	
180	♠:3-662-383-00	BAND, RETAINER, TUNER	
181	♠:1-608-998-00	PC BOARD, SL-2	

(5) CASSETTE LOADING ASSEMBLY 1


E2.3
201
202
203
⊕ PSW
2.6X6
204
⊕ BVTT
2X4
E2.3
209
210
205
201
E2.3
203
206
207
211
208
212
201
214
215
216
117
⊕ PS
2.6X4
E2.3
E2.3
213
221
219
220
E2.3
201
218
W2
⊕ BVTT
2.6X6
⊕ BVTT
2.6X6
⊕ PSW
2.6X5
⊕ PS2X12
224
222
223
225
226

No.	Part No.	Description	Remark
201	3-701-439-21	WASHER	
202	3-670-056-00	ARM (L), DOOR	
203	3-500-130-00	SPRING, TENSION	
204	♠:3-671-819-00	COVER, SECTOR GEAR	
205	3-670-057-00	ARM (R), DOOR	
206	3-670-001-00	LEVER, UNLOCK	
207	3-670-034-00	JOINT, UNLOCK	
208	3-669-465-00	WASHER (1.5), STOPPER	
209	♠:3-670-152-00	ARM, LOCK, UP	
210	3-536-767-XX	SPRING, TENSION	
211	3-670-136-00	ARM, HOLDER DRIVING	
212	3-670-151-00	GEAR, SECTOR	
213	3-670-016-00	GEAR (A)	
214	♠:3-670-015-00	WHEEL, WORM	
215	♠:3-646-476-00	NUT, PLATE	
216	1-552-664-00	SWITCH, MICRO S1 (CASSETE UP)	
217	3-534-263-00	INSULATOR	
218	♠:3-670-168-00	BEARING, WORM	
219	X-3670-001-0	WORM ASSY	
220	X-3670-002-0	MOTOR ASSY, FL	
221	♠:A-6728-246-A	LM-9 BOARD, COMPLETE	
222	3-530-248-XX	SPRING, TENSION	
223	♠:3-670-010-00	STOPPER, LOCK	
224	♠:3-670-009-00	PLATE, LOCK	
225	3-630-615-XX	SPRING, TENSION	
226	♠:3-670-011-00	PLATE, ADJUSTMENT, CD	

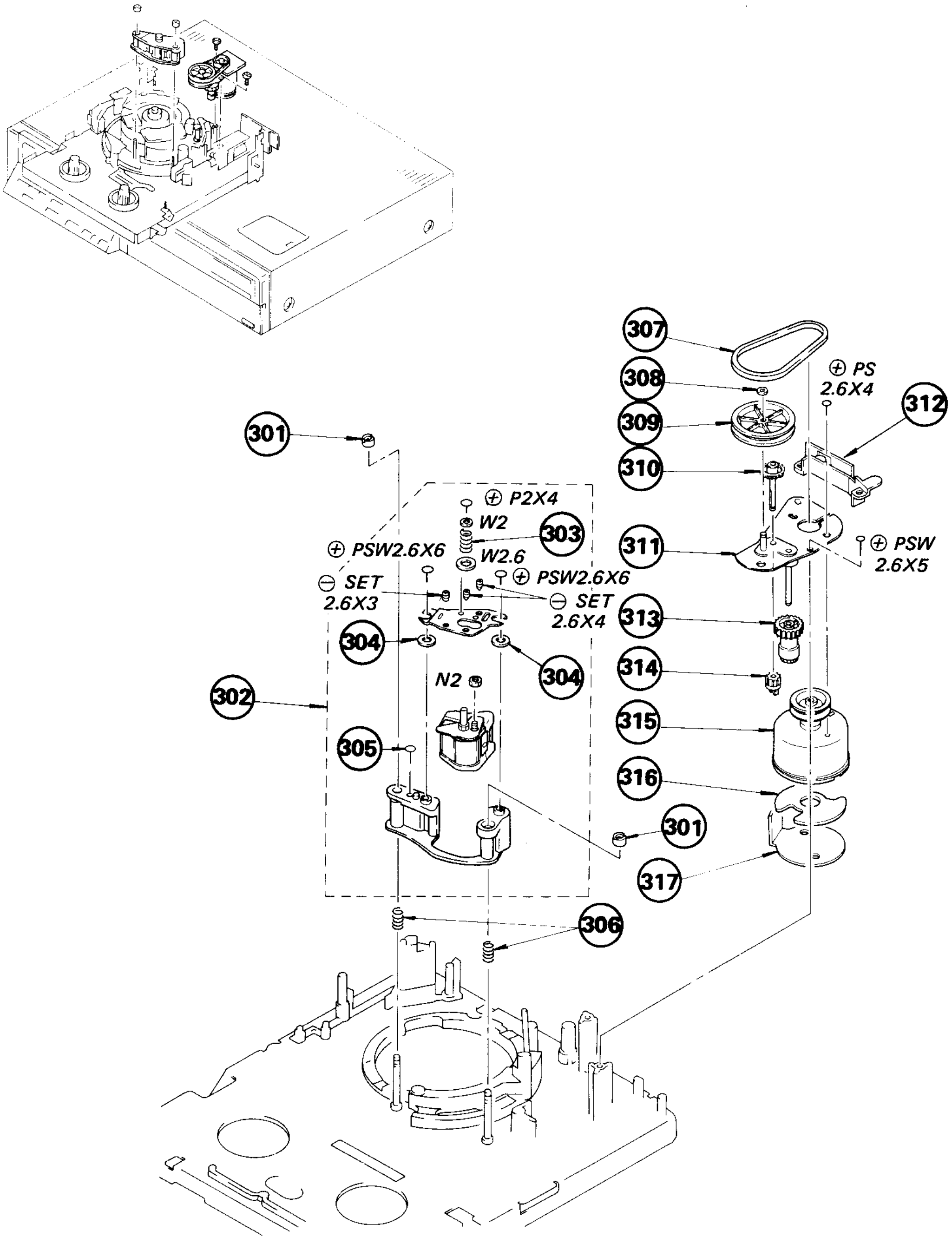
(6) CASSETTE LOADING ASSEMBLY 2


254
E2.3
255
256
258
257
251
252
253
⊕ BVTT
2.6X6
259
260
E2.3
⊕ P2X3
SW2
268
W2
274
275
269
270
261
E2.3
262
263
264
259
265
257
266
267
E2.3
W2
SW2
⊕ P2X3
273
271
272
269
260
276
277
⊕ BVTT
2X4
⊕ PSW
2.6X6
278
279
⊕ BVTT2X4
280
281
⊕ PS
2X4
W2

No.	Part No.	Description	Remark
251	3-671-863-00	STRING, PULL, WIRE	
252	3-535-021-00	SPRING, TENSION	
253	3-671-864-00	PLATE, SPRING HOOK	
254	3-670-003-00	CAM (L), C-IN	
255	3-670-018-00	ROLLER, GUIDE	
256	3-670-006-00	GEAR (E)	
257	3-670-169-00	SPRING, TENSION	
258	♠:3-670-031-00	RETAINER (L), CASSETTE	
259	♠:3-646-334-00	CUSHION	
260	3-670-007-00	GEAR (C)	
261	3-670-004-00	CAM (R), C-IN	
262	♠:X-3670-005-0	ARM ASSY, OPEN LID	
263	3-670-054-00	ROLLER, OPEN LID	
264	3-669-465-00	WASHER (1.5), STOPPER	
265	♠:3-670-041-00	RETAINER (R), CASSETTE	
266	3-670-005-00	GEAR (B)	

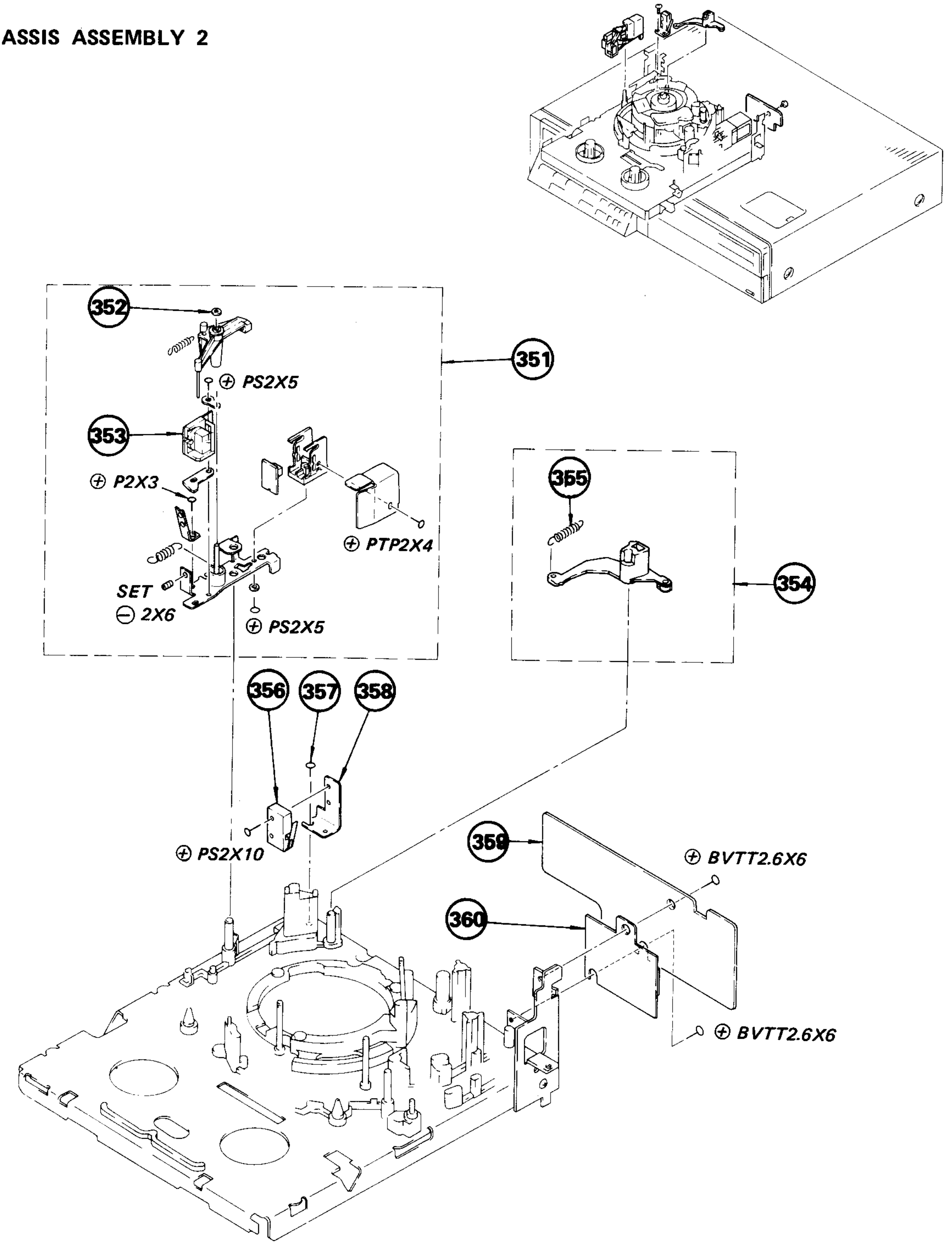
No.	Part No.	Description	Remark
267	3-671-892-00	ROLLER (M), GUIDE	
268	♠:1-605-111-14	CI-2 BOARD	
269	3-489-310-XX	SPRING, TENSION	
270	♠:3-670-036-00	PLATE (L), SLIDE, C	
271	♠:3-670-053-00	SHAFT, JOINT	
272	♠:3-670-037-00	PLATE (R), SLIDE, C	
273	♠:1-605-112-14	CI-3 BOARD	
274	3-670-058-00	SPRING, LEAF	
275	3-670-150-21	PLATE, BLIND	
276	♠:A-6728-247-A	RL-4 BOARD, COMPLETE	
277	♠:3-670-170-00	TUBE, RUBBER	
278	♠:3-670-032-00	RAIL (R)	
279	♠:3-670-012-00	OPEN LID	
280	3-573-469-00	RETAINER, LEAD, SD	
281	X-3670-083-0	DOOR ASSY, CASSETTE	

(7) CHASSIS ASSEMBLY 1


307
308
⊕ PS 2.6X4
312
309
310
301
⊕ P2X4
W2
303
⊕ PSW2.6X6
W2.6
311
⊕ PSW 2.6X5
⊕ PSW2.6X6
⊖ SET 2.6X3
⊖ SET 2.6X4
313
304
304
314
N2
302
315
305
316
301
317
306

No.	Part No.	Description	Remark
301	3-669-318-00	NUT, ADJUSTMENT, GUIDE	
302	A-6761-049-A	ACE ASSY (S-2)	303,304,305
303	♦:3-669-316-00	SPRING, COMPRESSION	
304	3-669-598-00	WASHER, CTL	
305	3-669-480-11	+ PTPWH 2	
306	3-669-317-00	SPRING, COMPRESSION	
307	3-669-327-00	BELT, RUBBER	
308	3-669-465-00	WASHER (1.5), STOPPER	
309	X-3670-087-0	PULLEY ASSY, GEAR	
310	3-669-332-00	GEAR (BA)	
311	X-3670-088-0	PC BOARD ASSY (D), MOTOR, L	
312	♦:3-671-826-00	CLAMP (M), HARNESS	
313	X-3669-321-0	GEAR (C) ASSY	
314	3-669-333-00	GEAR (BC)	
315	A-6737-090-A	MOTOR ASSY, L	
316	♦:1-605-071-00	LM-8 BOARD	
317	♦:3-669-613-00	INSULATOR, L MOTOR	

(8) CHASSIS ASSEMBLY 2


352
351
⊕ PS2X5
353
⊕ P2X3
⊕ PTP2X4
SET
⊖ 2X6
⊕ PS2X5
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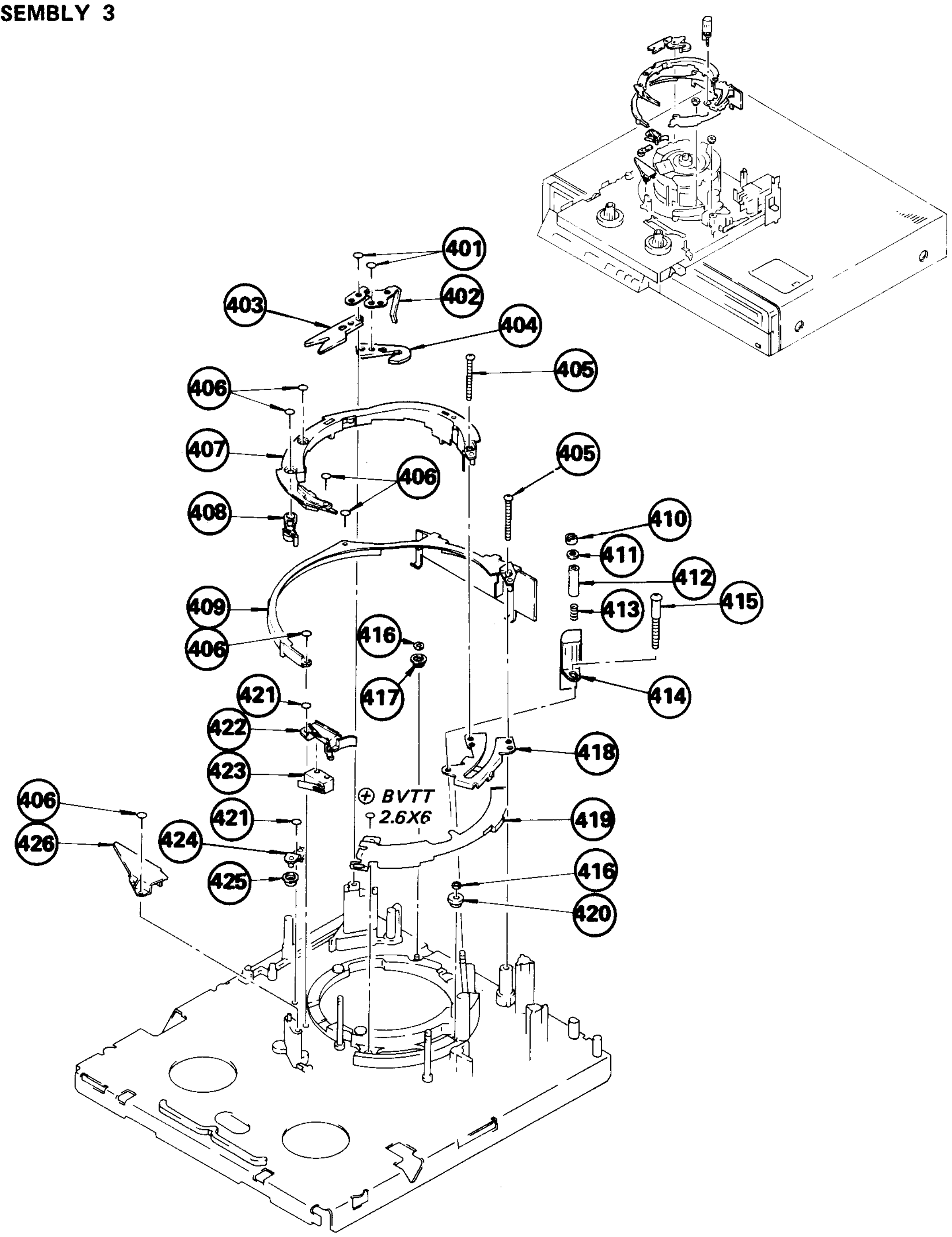
354
356
357
358
⊕ PS2X10
359
⊕ BVTT2.6X6
360
⊕ BVTT2.6X6

No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
351	A-6742-041-A	TP ASSY	352,353	356	1-553-539-00	SWITCH, MICRO S2 (THREADING END)	
352	3-669-465-00	WASHER (1.5), STOPPER		357	3-669-607-11	+PSW (SMALL ROUND) (2.6)	
353	1-235-054-00	COIL, SENSOR, S		358	♠:3-672-542-00	BRACKET, SWITCH, LE	
354	X-3669-351-4	ARM ASSY, LOCK	355	359	♠:1-607-772-00	RL-6 BOARD	
355	3-531-860-00	SPRING, TENSION		360	♠:3-675-549-00	INSULATOR, RL-6	

(9) CHASSIS ASSEMBLY 3


401
402
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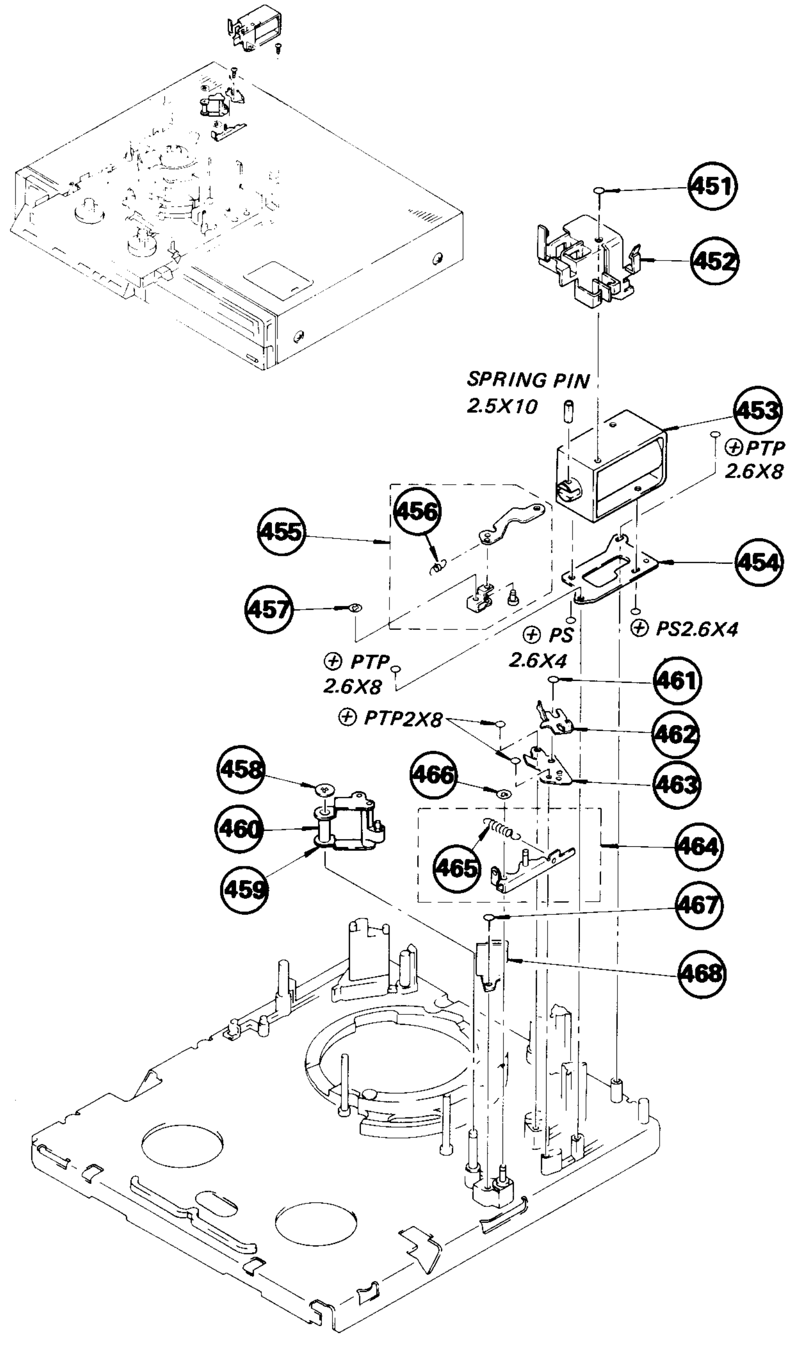
417
414
421
422
418
423
⊕ BVTT
2.6X6
406
426
421
424
419
425
416
420

No.	Part No.	Description	Remark
401	3-669-480-00	+ PTPWH 2	
402	🌢:3-672-540-00	PLATE, GROUND, TAPE GUIDE	
403	🌢:3-669-618-00	PLATE (2), ADJUST	
404	🌢:3-672-507-00	PLATE (3-1), ADJUSTMENT	
405	3-669-466-00	SCREW (M 2.6)	
406	3-669-480-11	+ PTPWH 2	
407	🌢:3-669-584-00	GUIDE (1), SHUTTLE	
408	X-3669-327-0	ARM ASSY, SWITCH, ULE	
409	🌢:3-669-585-00	GUIDE (2), SHUTTLE	
410	3-669-446-00	NUT, GUIDE, NO. 6	
411	3-669-447-00	FLANGE, GUIDE, NO. 6	
412	3-669-445-00	SPACER, GUIDE, NO. 6	
413	3-669-615-00	SPRING, COMPRESSION	
414	8-825-508-10	HEAD, FE	
415	3-669-606-00	SCREW (2.6)	
416	3-669-465-00	WASHER (1.5), STOPPER	
417	3-669-630-00	ROLLER (C), RING	
418	🌢:X-3669-313-0	BASE ASSY, SLANT	
419	🌢:3-669-477-00	LINER, LINK, PIN	
420	3-669-597-00	ROLLER (B), RING	
421	3-669-607-11	+PSW (SMALL ROUND) (2.6)	
422	🌢:3-669-355-00	HOLDER, SWITCH, ULE	
423	1-553-718-00	SWITCH, MICRO S4 (UNTHREADING END)	
424	🌢:X-3669-329-0	PLATE ASSY, ADJUSTMENT	
425	3-669-360-00	ROLLER, RING	
426	🌢:3-669-476-04	PLATE, GUIDE	

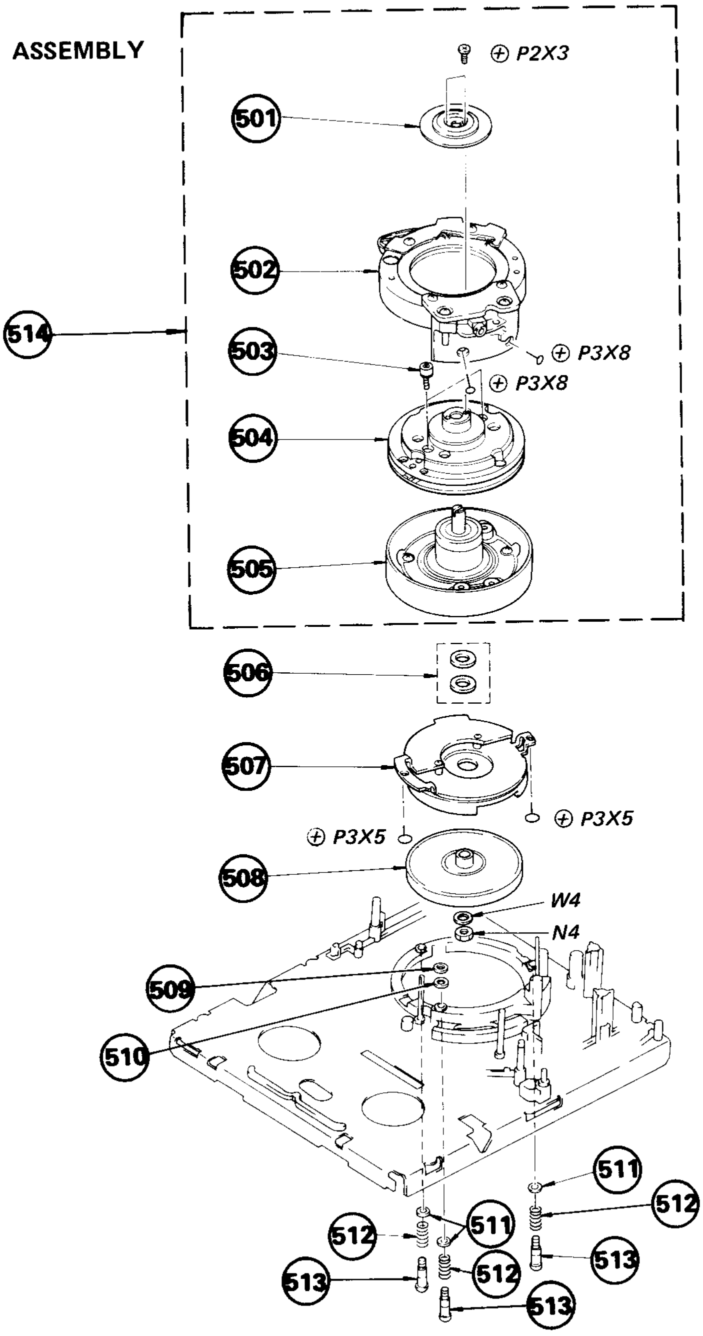
(10) CHASSIS ASSEMBLY 4

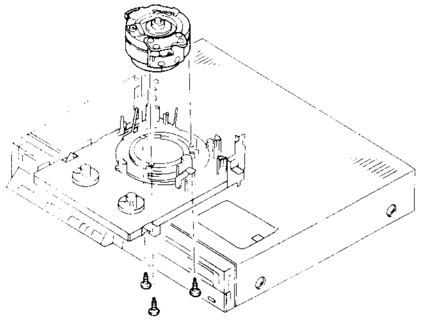

451
452
SPRING PIN
2.5X10
453
⊕PTP
2.6X8
456
455
454
457
⊕ PS
2.6X4
⊕ PS2.6X4
⊕ PTP
2.6X8
461
⊕ PTP2X8
462
458
466
463
460
464
465
459
467
468

No.	Part No.	Description	Remark
451	3-669-607-11	+PSW (SMALL ROUND) (2.6)	
452	♠:3-671-827-00	CLAMP (D), HARNESS	
453	⚠1-454-282-11	SOLENOID, PLUNGER (PINCH ROLLER)	
454	♠:3-669-459-00	BRACKET, SOLENOID	
455	X-3670-062-0	ARM ASSY, PINCH SOLENOID	456
456	3-669-440-00	SPRING, TENSION	
457	3-669-465-00	WASHER (1.5), STOPPER	
458	3-669-596-00	WASHER (2.3), STOPPER	
459	♠:X-3670-059-2	ARM ASSY, PINCH PRESS	460
460	♠:3-674-340-02	SLEEVE, GUIDE, NO. 10	
461	3-669-607-00	+PSW (SMALL ROUND) 2.6	
463	♠:3-669-349-00	PLATE, LOCK, T	
464	♠:X-3670-057-0	ARM ASSY, PINCH LIMITTER	465
465	3-465-159-XX	SPRING, TENSION	
466	3-669-595-00	WASHER (2), STOPPER	
467	3-669-480-11	+ PTPWH 2	
468	1-235-055-00	COIL SENSOR, T	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

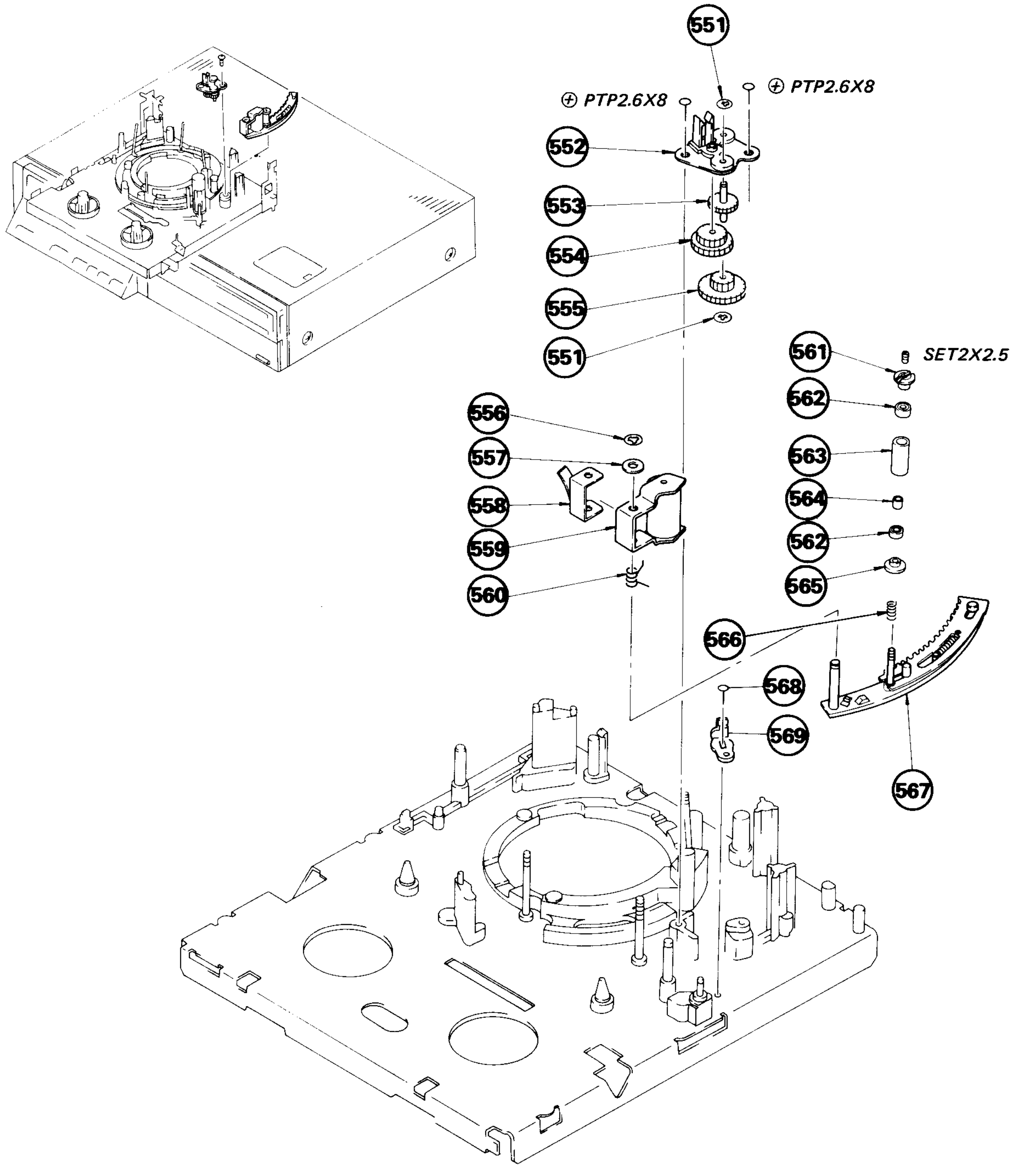
(11) DRUM ASSEMBLY


P2X3
501
502
514
503
P3X8
P3X8
504
505
506
507
P3X5
P3X5
508
W4
N4
509
510
511
512
511
512
513
512
513
513



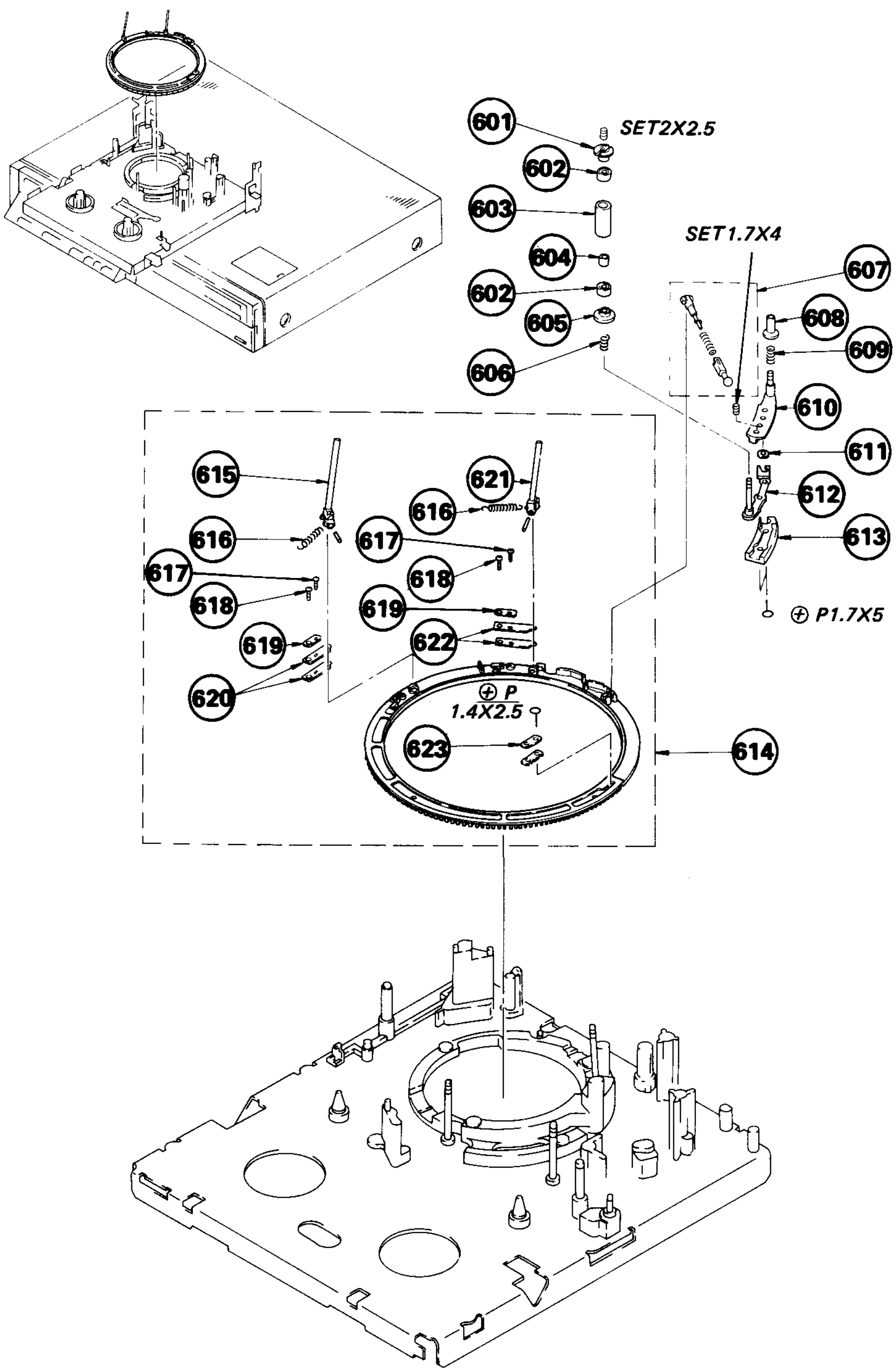
No.	Part No.	Description	Remark
501	♠:X-3669-106-0	DAMPER ASSY	
502	A-6760-101-A	DRUM ASSY, UPPER	
503	3-669-157-00	BOLT (WASHER) (2.6X8)	
504	A-6762-088-A	DISK ASSY (DSR-21-R)	
505	A-6760-096-A	FRANGE ASSY, DRUM, LOWER	
506	X-3669-105-0	SPACER BLOCK ASSY	
507	X-2621-204-2	STATOR ASSY, D	
508	X-2621-202-0	ROTOR ASSY, D	
509	♠:3-669-462-00	PLATE, ADJUSTMENT, LIMITER, PINCH	
510	♠:3-669-646-00	SPACER, DRUM	
510	♠:3-669-646-11	SPACER, DRUM	
511	3-669-600-11	WASHER, FLAT (3.5)	
512	3-429-123-00	SPRING	
513	3-669-302-00	SCREW, FITTING	
514	A-6050-139-A	DRUM ASSY (DSH-21A-R) 501–505	

(12) CHASSIS ASSEMBLY 5


551
⊕ PTP2.6X8
⊕ PTP2.6X8
552
553
554
555
551
561
SET2X2.5
562
563
564
562
565
556
557
558
559
560
566
568
569
567

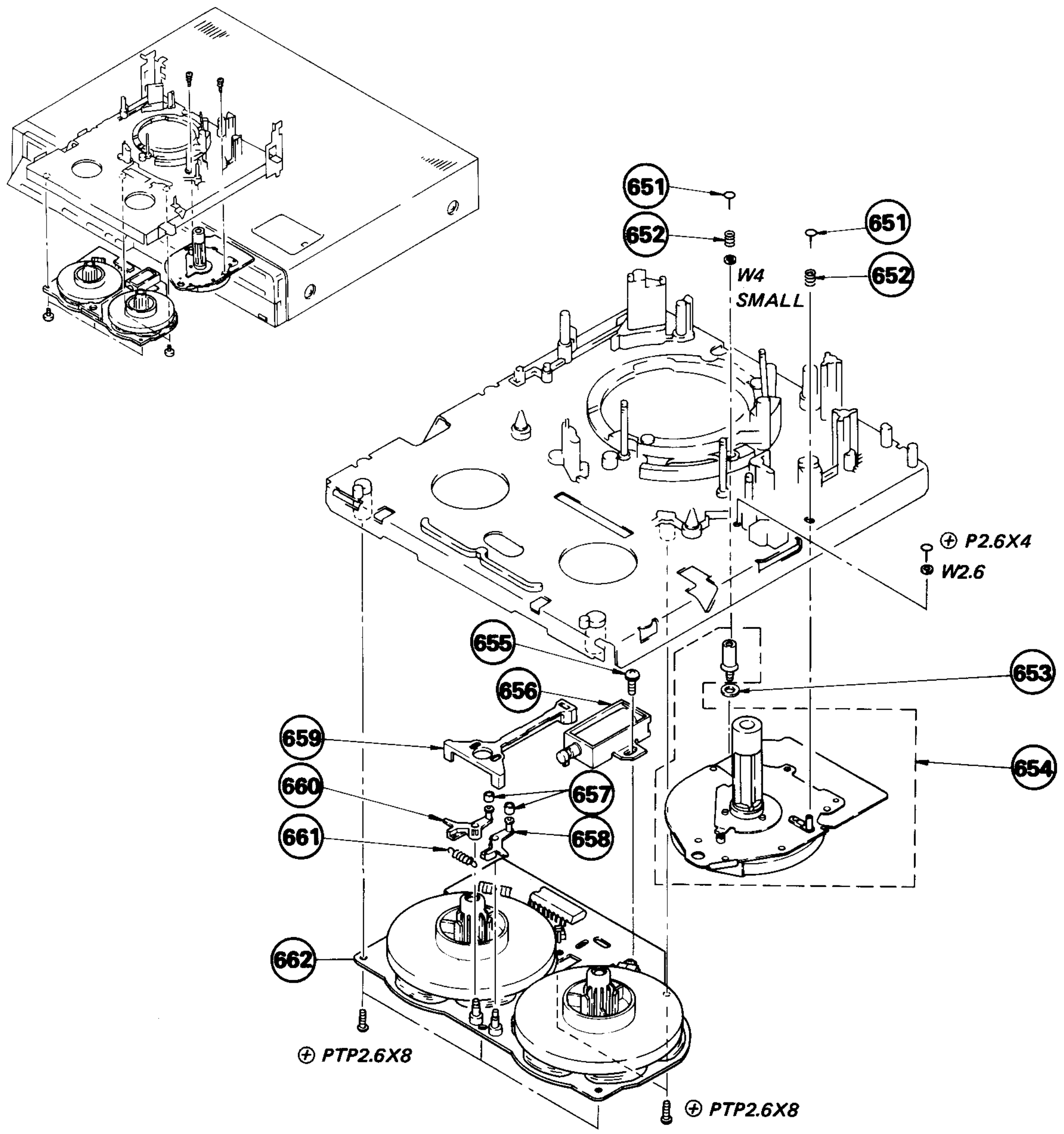
No.	Part No.	Description	Remark
551	3-669-465-00	WASHER (1.5), STOPPER	
552	X-3669-326-0	CHASSIS ASSY, GEAR, DRIVE	
553	X-3669-305-0	GEAR (F) ASSY	
554	3-669-338-00	GEAR (E)	
555	3-669-337-00	GEAR (D)	
556	3-669-596-00	WASHER (2.3), STOPPER	
557	3-701-439-01	WASHER	
558	♠:3-674-345-00	SPRING	
559	X-3670-063-0	ARM ASSY, PINCH ROLLER	
560	3-669-444-00	SPRING, TORSION	
561	3-669-431-00	FLANGE (UPPER), GUIDE	
562	3-669-443-00	BEARING, BALL (NO FLANGE)	
563	3-669-438-00	ROLLER, GUIDE	
564	3-657-841-31	SPACER (DIA. 2)	
565	3-669-432-00	FLANGE (LOWER), GUIDE	
566	3-669-452-00	SPRING, COMPRESSION	
567	♠:X-3669-350-0	GEAR ASSY, SLIDER	
568	3-669-607-31	+PSW (SMALL ROUND) (2.6)	
569	♠:3-669-350-00	STOPPER, SLIDER	

(13) CHASSIS ASSEMBLY 6


601
SET2X2.5
602
603
SET1.7X4
604
607
602
605
608
609
606
610
615
621
611
616
616
617
612
617
618
613
618
619
619
622
⊕ P1.7X5
620
⊕ P
1.4X2.5
623
614

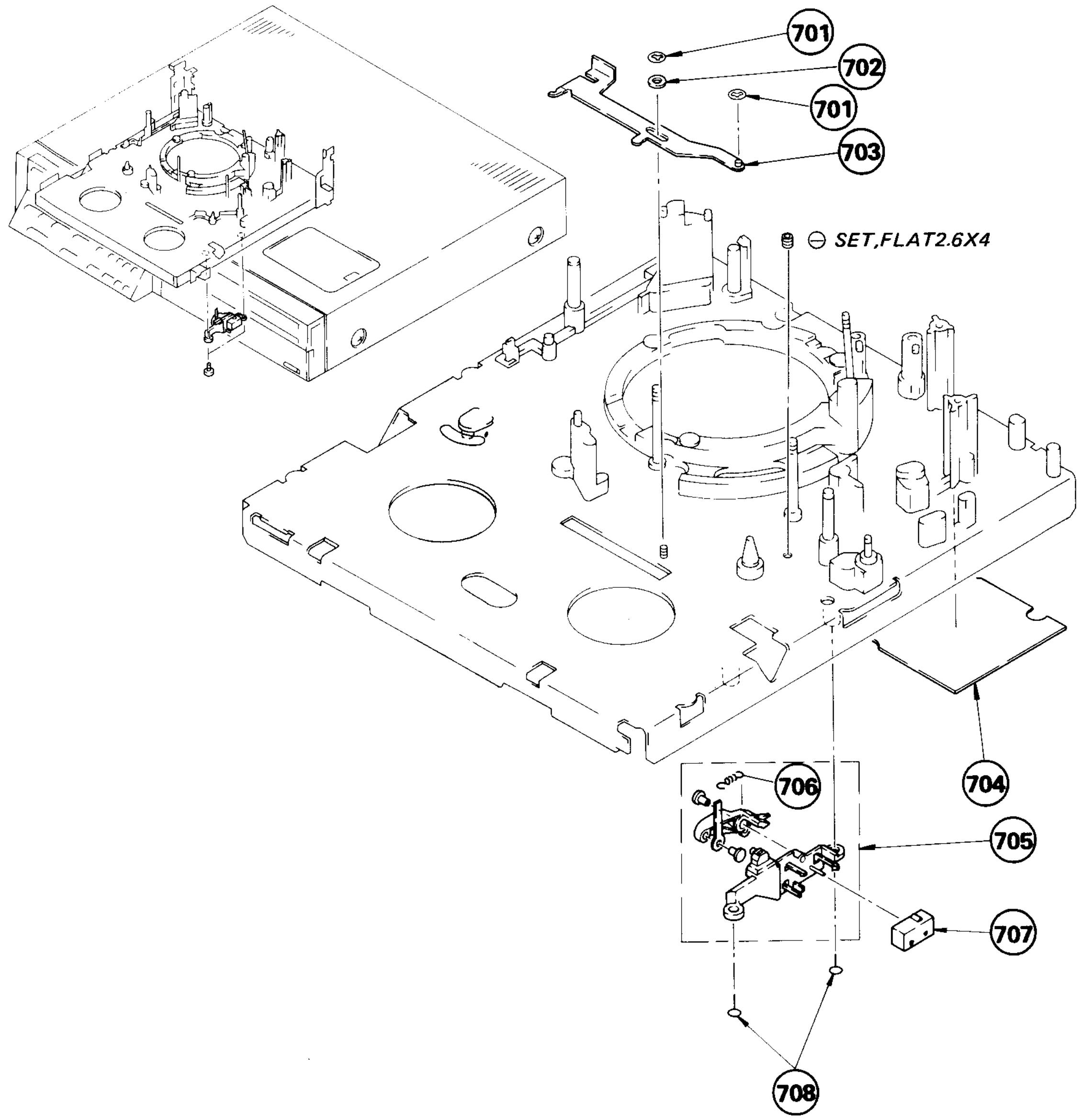
No.	Part No.	Description	Remark
601	3-669-431-00	FLANGE (UPPER), GUIDE	
602	3-669-443-00	BEARING, BALL (NO FLANGE)	
603	3-669-668-00	ROLLER, GUIDE	
604	3-657-841-31	SPACER (DIA. 2)	
605	3-669-667-00	FLANGE (LOWER), GUIDE	
606	3-669-666-00	SPRING, COMPRESSION	
607	X-3669-316-0	ROD ASSY, PUSH	
608	♠:3-669-643-00	SLEEVE, GUIDE, NO. 4	
609	3-672-531-00	SPRING, COMPRESSION	
610	♠:X-3669-314-0	PLATE ASSY, SHUTTLE	
611	3-701-437-11	WASHER	
612	♠:X-3669-315-0	HEAD ASSY, TILT	
613	♠:3-669-540-00	BLOCK, SHUTTLE	
614	X-3669-353-0	RING ASSY, THREADING, S	615-623
615	♠:X-3669-303-4	GUIDE ASSY, NO. 2	
616	3-669-473-00	SPRING, TENSION	
617	3-669-478-00	SCREW (1X3), TAPPING	
618	3-669-479-11	SCREW (1.4X3.5), TAPPING	
619	♠:3-669-472-00	RETAINER, SPRING, LEAF	
620	3-669-470-02	SPRING (2), LEAF	
621	♠:X-3669-304-5	GUIDE ASSY, NO. 3	
622	3-669-471-03	SPRING (3), LEAF, LIMITER	
623	♠:3-669-616-00	RETAINER	

(14) CHASSIS ASSEMBLY 7


651
652
W4
SMALL
651
652
⊕ P2.6X4
W2.6
655
656
653
659
654
660
657
661
658
662
⊕ PTP2.6X8
⊕ PTP2.6X8

No.	Part No.	Description	Remark
651	3-669-633-00	SCREW, + PW2	
652	3-669-602-00	SPRING, COMPRESSION	
653	3-669-697-00	SPACER, CAPSTAN	
654	8-838-027-11	MOTOR, DC (BHF-1901B)	
655	3-669-663-00	+PSW 2.6	
656	⚠.1-454-281-31	SOLENOID, PLUNGER (BRAKE)	
657	3-669-305-00	BUSHING	
658	♦:3-669-303-00	BRAKE, T	
659	♦:3-669-530-00	ARM, BRAKE	
660	♦:3-669-304-00	BRAKE, S	
661	3-491-360-00	SPRING, TENSION	
662	8-838-021-21	MOTOR, DC (BHF-1800C)	

(15) CHASSIS ASSEMBLY 8


701
702
701
703
SET,FLAT2.6X4
704
706
705
707
708

No.	Part No.	Description	Remark
701	3-669-595-00	WASHER (2), STOPPER	
702	3-701-438-21	WASHER	
703	♣:X-3670-021-0	PLATE ASSY, UNLOCK	
704	♣:3-669-599-00	INSULATOR	
705	♣:X-3669-323-0	MR ASSY	706
706	♣:3-669-411-00	SPRING, TENSION	
707	1-553-717-00	SWITCH, MICRO S3 (REC PROOF)	
708	3-669-480-11	+ PTPWH 2	

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- =>: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.
- Items marked " ♠ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS
- MF : μF, PF : μμF

RESISTORS
- All resistors are in ohms
- F : nonflammable

COILS
- MMH : mH, UH : μH

When indicating parts by reference number, please include the board name.

♠:1-606-794-00 N BOARD
****

CAPACITOR

Ref.No.	Part No.	Description			Remark
C1	1-123-617-00	ELECT	10MF	20%	16V
C2	1-123-617-00	ELECT	10MF	20%	16V
C3	1-123-617-00	ELECT	10MF	20%	16V
C4	1-161-019-00	CERAMIC	0.033MF	10%	25V
C5	1-108-567-00	MYLAR	0.0033MF	5%	50V
C6	1-123-821-00	ELECT	47MF	20%	16V

DIODE

Ref.No.	Part No.	Description
D1	8-719-110-32	DIODE PH302B

IC

Ref.No.	Part No.	Description
IC1	8-759-113-73	IC UPC1373H

COIL

Ref.No.	Part No.	Description
L1	1-404-310-00	COIL

****

♠:A-6711-356-A RP-7 BOARD, COMPLETE
****

CAPACITOR

Ref.No.	Part No.	Description			Remark
C701	1-161-013-00	CERAMIC	0.01MF	10%	25V
C702	1-161-013-00	CERAMIC	0.01MF	10%	25V
C703	1-161-013-00	CERAMIC	0.01MF	10%	25V
C704	1-123-611-00	ELECT	1MF	20%	50V
C705	1-161-013-00	CERAMIC	0.01MF	10%	25V
C706	1-123-622-00	ELECT	22MF	20%	16V
C707	1-161-013-00	CERAMIC	0.01MF	10%	25V
C708	1-161-013-00	CERAMIC	0.01MF	10%	25V
C709	1-123-611-00	ELECT	1MF	20%	50V
C712	1-161-013-00	CERAMIC	0.01MF	10%	25V
C713	1-161-013-00	CERAMIC	0.01MF	10%	25V
C714	1-161-013-00	CERAMIC	0.01MF	10%	25V
C715	1-161-013-00	CERAMIC	0.01MF	10%	25V
C716	1-102-951-00	CERAMIC	15PF	5%	50V
C717	1-161-013-00	CERAMIC	0.01MF	10%	25V
C718	1-123-612-00	ELECT	2.2MF	20%	50V
C719	1-161-013-00	CERAMIC	0.01MF	10%	25V
C720	1-123-612-00	ELECT	2.2MF	20%	50V
C721	1-102-951-00	CERAMIC	15PF	5%	50V
C722	1-161-013-00	CERAMIC	0.01MF	10%	25V
C723	1-102-951-00	CERAMIC	15PF	5%	50V
C724	1-123-612-00	ELECT	2.2MF	20%	50V
C725	1-123-612-00	ELECT	2.2MF	20%	50V
C726	1-161-013-00	CERAMIC	0.01MF	10%	25V
C727	1-102-821-00	CERAMIC	360PF	5%	50V
C729	1-123-617-00	ELECT	10MF	20%	16V
C730	1-102-824-00	CERAMIC	430PF	5%	50V
C731	1-161-013-00	CERAMIC	0.01MF	10%	25V
C732	1-161-013-00	CERAMIC	0.01MF	10%	25V
C733	1-161-013-00	CERAMIC	0.01MF	10%	25V
C734	1-161-013-00	CERAMIC	0.01MF	10%	25V
C735	1-161-013-00	CERAMIC	0.01MF	10%	25V
C736	1-161-013-00	CERAMIC	0.01MF	10%	25V
C737	1-161-013-00	CERAMIC	0.01MF	10%	25V
C738	1-101-890-00	CERAMIC	75PF	5%	50V
C739	1-102-824-00	CERAMIC	430PF	5%	50V
C741	1-161-013-00	CERAMIC	0.01MF	10%	25V
C742	1-161-013-00	CERAMIC	0.01MF	10%	25V
C743	1-161-013-00	CERAMIC	0.01MF	10%	25V
C744	1-123-820-00	ELECT	33MF	20%	16V
C745	1-161-013-00	CERAMIC	0.01MF	10%	25V
C746	1-123-622-00	ELECT	22MF	20%	16V
C748	1-123-622-00	ELECT	22MF	20%	16V
C749	1-161-013-00	CERAMIC	0.01MF	10%	25V
C750	1-123-622-00	ELECT	22MF	20%	16V
C751	1-161-013-00	CERAMIC	0.01MF	10%	25V
C752	1-161-013-00	CERAMIC	0.01MF	10%	25V
C753	1-161-013-00	CERAMIC	0.01MF	10%	25V
C754	1-161-013-00	CERAMIC	0.01MF	10%	25V
C755	1-161-059-00	CERAMIC	0.047MF	10%	50V
C756	1-161-025-00	CERAMIC	0.1MF	10%	25V
C757	1-161-013-00	CERAMIC	0.01MF	10%	25V
C758	1-123-622-00	ELECT	22MF	20%	16V
C759	1-161-013-00	CERAMIC	0.01MF	10%	25V
C760	1-123-617-00	ELECT	10MF	20%	16V
C761	1-102-959-00	CERAMIC	22PF	5%	50V
C762	1-102-959-00	CERAMIC	22PF	5%	50V
C763	1-102-959-00	CERAMIC	22PF	5%	50V
C764	1-161-013-00	CERAMIC	0.01MF	10%	25V
C765	1-123-617-00	ELECT	10MF	20%	16V
C766	1-101-890-00	CERAMIC	75PF	5%	50V
C767	1-161-013-00	CERAMIC	0.01MF	10%	25V
C768	1-161-013-00	CERAMIC	0.01MF	10%	25V

CONNECTOR

Ref.No.	Part No.	Description
CN701♠	1-560-463-00	PIN, CONNECTOR 8P
CN702♠	1-560-463-00	PIN, CONNECTOR 8P
CN703♠	1-560-461-00	PIN, CONNECTOR 5P
CN704♠	1-560-464-00	PIN, CONNECTOR 10P

DIODE

Ref.No.	Part No.	Description
D701	=>8-719-901-33	DIODE 1SS133
D702	=>8-719-901-33	DIODE 1SS133
D703	=>8-719-901-33	DIODE 1SS133

IC

Ref.No.	Part No.	Description
IC701	=>8-759-906-30	IC CX-863A

RP-7

Ref.No.	Part No.	Description				Remark
		COIL				
L701	1-408-421-00	MICRO INDUCTOR 100UH				
L702	1-408-397-00	MICRO INDUCTOR 1UH				
L703	1-408-421-00	MICRO INDUCTOR 100UH				
L704	1-408-397-00	MICRO INDUCTOR 1UH				
L705	1-408-421-00	MICRO INDUCTOR 100UH				
L706	1-408-397-00	MICRO INDUCTOR 1UH				
L707	1-408-423-00	MICRO INDUCTOR 150UH				
L708	1-408-414-00	MICRO INDUCTOR 27UH				
L709	1-408-414-00	MICRO INDUCTOR 27UH				
L710	1-408-414-00	MICRO INDUCTOR 27UH				
L711	1-408-421-00	MICRO INDUCTOR 100UH				
L712	1-408-421-00	MICRO INDUCTOR 100UH				
L713	1-408-423-00	MICRO INDUCTOR 150UH				
L714	1-408-421-00	MICRO INDUCTOR 100UH				
		TRANSISTOR				
Q701	8-765-422-00	TRANSISTOR 2SK152-2				
Q703	8-729-178-54	TRANSISTOR 2SC2785				
Q704	8-729-603-50	TRANSISTOR 2SC403SP				
Q705	8-765-422-00	TRANSISTOR 2SK152-2				
Q706	8-729-178-54	TRANSISTOR 2SC2785				
Q707	8-729-603-50	TRANSISTOR 2SC403SP				
Q708	8-765-422-30	TRANSISTOR 2SK152-2				
Q710	8-729-178-54	TRANSISTOR 2SC2785				
Q711	8-729-178-54	TRANSISTOR 2SC2785				
Q712	8-729-178-54	TRANSISTOR 2SC2785				
Q713	8-729-178-54	TRANSISTOR 2SC2785				
Q714	8-729-603-50	TRANSISTOR 2SC403SP				
Q715	8-729-603-50	TRANSISTOR 2SC403SP				
Q716	8-729-603-50	TRANSISTOR 2SC403SP				
Q717	8-729-603-50	TRANSISTOR 2SC403SP				
Q718	=>8-729-374-02	TRANSISTOR 2SB740				
Q719	8-729-178-54	TRANSISTOR 2SC2785				
		RESISTOR				
R701	1-246-796-00	CARBON	12K		1/8W	
R702	1-246-850-00	CARBON	3.6K		1/8W	
R703	1-246-780-00	CARBON	560		1/8W	
R704	1-246-778-00	CARBON	390		1/8W	
R706	1-246-850-00	CARBON	3.6K		1/8W	
R707	1-246-836-00	CARBON	240		1/8W	
R709	1-246-796-00	CARBON	12K		1/8W	
R710	1-246-780-00	CARBON	560		1/8W	
R712	1-246-850-00	CARBON	3.6K		1/8W	
R713	1-246-778-00	CARBON	390		1/8W	
R716	1-246-850-00	CARBON	3.6K		1/8W	
R717	1-246-836-00	CARBON	240		1/8W	
R718	1-246-796-00	CARBON	12K		1/8W	
R719	1-246-850-00	CARBON	3.6K		1/8W	
R720	1-246-780-00	CARBON	560		1/8W	
R722	1-246-778-00	CARBON	390		1/8W	
R725	1-246-843-00	CARBON	910		1/8W	
R726	1-246-791-00	CARBON	4.7K		1/8W	
R727	1-246-791-00	CARBON	4.7K		1/8W	
R728	1-246-791-00	CARBON	4.7K		1/8W	
R729	1-246-795-00	CARBON	10K		1/8W	
R730	1-246-846-00	CARBON	1.6K		1/8W	
R731	1-246-785-00	CARBON	1.5K		1/8W	
R732	1-246-795-00	CARBON	10K		1/8W	
R733	1-246-791-00	CARBON	4.7K		1/8W	
R734	1-246-791-00	CARBON	4.7K		1/8W	
R735	1-246-791-00	CARBON	4.7K		1/8W	
R736	1-246-799-00	CARBON	22K		1/8W	
R737	1-246-799-00	CARBON	22K		1/8W	
R738	1-246-775-00	CARBON	220		1/8W	
R740	1-246-783-00	CARBON	1K		1/8W	
R741	1-246-791-00	CARBON	4.7K		1/8W	
R742	1-246-772-00	CARBON	120		1/8W	
R743	1-246-835-00	CARBON	200		1/8W	
R744	1-246-791-00	CARBON	4.7K		1/8W	
R745 ⚠	**1-247-031-00**	**CARBON**	**27**	**5%**	**1/8W**	**F**
R746	1-246-845-00	CARBON	1.3K		1/8W	
R747	1-246-851-00	CARBON	4.3K		1/8W	
R748 ⚠	**1-247-031-00**	**CARBON**	**27**	**5%**	**1/8W**	**F**
R749	1-246-783-00	CARBON	1K		1/8W	
R750	1-246-775-00	CARBON	220		1/8W	
R751	1-246-783-00	CARBON	1K		1/8W	
R752	1-246-853-00	CARBON	6.2K		1/8W	
R753	1-246-853-00	CARBON	6.2K		1/8W	
R754	1-246-783-00	CARBON	1K		1/8W	
R755	1-246-777-00	CARBON	330		1/8W	
R756	1-246-853-00	CARBON	6.2K		1/8W	
R757	1-246-785-00	CARBON	1.5K		1/8W	
R758	1-246-795-00	CARBON	10K		1/8W	
R759	1-246-783-00	CARBON	1K		1/8W	
R760	1-246-801-00	CARBON	33K		1/8W	
R761	1-246-801-00	CARBON	33K		1/8W	
R762	1-246-803-00	CARBON	47K		1/8W	
R763	1-246-803-00	CARBON	47K		1/8W	
		VARIABLE RESISTOR				
RV701	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K				
RV702	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K				
RV703	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K				
RV704	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K				
RV705	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K				
		TRANSFORMER				
T701	1-427-522-00	TRANSFORMER, INPUT OUTPUT				
T702	1-427-521-00	TRANSFORMER				
T703	1-427-521-00	TRANSFORMER				
T704	1-409-352-00	COIL, TRAP				
T705	1-409-353-00	COIL, TRAP				

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
●:	A-6711-392-A	RV-7(ES) BOARD, COMPLETE *************************			
	1-533-162-00	HOLDER, FUSE			
	1-536-723-00	TERMINAL BOARD, CONTROL PANEL			

FILTER

Ref.No.	Part No.	Description
BPF001	1-235-098-00	FILTER, BAND PASS

CAPACITOR

Ref.No.	Part No.	Description			Remark
C001	1-123-324-00	ELECT	1000MF	20%	16V
C002	1-123-356-00	ELECT	10MF	20%	16V
C003	1-123-356-00	ELECT	10MF	20%	16V
C004	1-123-356-00	ELECT	10MF	20%	16V
C005	1-101-005-00	CERAMIC	0.022MF		50V
C006	1-123-318-00	ELECT	33MF	20%	16V
C007	1-123-318-00	ELECT	33MF	20%	16V
C008	1-101-005-00	CERAMIC	0.022MF		50V
C009	1-101-005-00	CERAMIC	0.022MF		50V
C010	1-102-936-00	CERAMIC	3PF	0.25PF	50V
C011	1-101-888-00	CERAMIC	68PF	5%	50V
C012	1-123-381-00	ELECT	2.2MF	20%	50V
C013	1-102-962-00	CERAMIC	30PF	5%	50V
C014	1-123-330-00	ELECT	22MF	20%	16V
C015	1-101-004-00	CERAMIC	0.01MF		50V
C016	1-123-330-00	ELECT	22MF	20%	16V
C017	1-101-001-00	CERAMIC	0.001MF		50V
C018	1-101-001-00	CERAMIC	0.001MF		50V
C019	1-123-381-00	ELECT	2.2MF	20%	50V
C020	1-123-381-00	ELECT	2.2MF	20%	50V
C021	1-101-006-00	CERAMIC	0.047MF		50V
C022	1-123-328-00	ELECT	4.7MF	20%	25V
C023	1-123-356-00	ELECT	10MF	20%	16V
C024	1-102-965-00	CERAMIC	39PF	5%	50V
C025	1-102-948-00	CERAMIC	11PF	5%	50V
C026	1-102-948-00	CERAMIC	11PF	5%	50V
C027	1-123-318-00	ELECT	33MF	20%	16V
C028	1-123-328-00	ELECT	4.7MF	20%	25V
C029	1-123-318-00	ELECT	33MF	20%	16V
C030	1-123-356-00	ELECT	10MF	20%	16V
C031	1-123-356-00	ELECT	10MF	20%	16V
C032	1-123-328-00	ELECT	4.7MF	20%	25V
C033	1-102-114-00	CERAMIC	470PF	10%	50V
C034	1-101-005-00	CERAMIC	0.022MF		50V
C035	1-102-977-00	CERAMIC	200PF	5%	50V
C036	1-123-318-00	ELECT	33MF	20%	16V
C037	1-102-114-00	CERAMIC	470PF	10%	50V
C038	1-101-059-00	CERAMIC	510PF	5%	50V
C039	1-108-595-00	MYLAR	0.047MF	5%	50V
C040	1-161-063-00	CERAMIC	0.1MF	20%	25V
C041	1-102-973-00	CERAMIC	100PF	5%	50V
C042	1-102-977-00	CERAMIC	200PF	5%	50V
C043	1-123-356-00	ELECT	10MF	20%	16V
C044	1-161-063-00	CERAMIC	0.1MF	20%	25V
C045	1-102-947-00	CERAMIC	10PF	5%	50V
C046	1-123-306-00	ELECT	47MF	20%	10V
C047	1-123-328-00	ELECT	4.7MF	20%	25V
C048	1-101-880-00	CERAMIC	47PF	5%	50V
C049	1-123-318-00	ELECT	33MF	20%	16V
C050	1-123-356-00	ELECT	10MF	20%	16V
C051	1-123-318-00	ELECT	33MF	20%	16V
C052	1-123-318-00	ELECT	33MF	20%	16V
C053	1-123-330-00	ELECT	22MF	20%	16V
C054	1-108-557-00	MYLAR	0.0012MF	5%	50V
C055	1-102-117-00	CERAMIC	820PF	10%	50V
C056	1-101-006-00	CERAMIC	0.047MF		50V
C057	1-102-531-00	CERAMIC	150PF	5%	50V
C058	1-101-005-00	CERAMIC	0.022MF		50V
C059	1-123-318-00	ELECT	33MF	20%	16V
C060	1-123-318-00	ELECT	33MF	20%	16V
C061	1-108-555-00	MYLAR	0.001MF	5%	50V
C062	1-108-555-00	MYLAR	0.001MF	5%	50V
C063	1-102-531-00	CERAMIC	150PF	5%	50V
C064	1-123-380-00	ELECT	1MF	20%	50V
C065	1-101-004-00	CERAMIC	0.01MF		50V
C066	1-101-004-00	CERAMIC	0.01MF		50V
C067	1-101-003-00	CERAMIC	0.0047MF		50V
C068	1-101-006-00	CERAMIC	0.047MF		50V
C069	1-101-001-00	CERAMIC	0.001MF		50V
C070	1-123-356-00	ELECT	10MF	20%	16V
C071	1-101-005-00	CERAMIC	0.022MF		50V
C072	1-123-382-00	ELECT	3.3MF	20%	50V
C073	1-123-380-00	ELECT	1MF	20%	50V
C074	1-123-356-00	ELECT	10MF	20%	25V
C075	1-123-356-00	ELECT	10MF	20%	25V
C076	1-101-004-00	CERAMIC	0.01MF		50V
C077	1-102-110-00	CERAMIC	220PF	10%	50V
C078	1-101-004-00	CERAMIC	0.01MF		50V
C079	1-102-525-00	CERAMIC	68PF	5%	50V
C080	1-102-525-00	CERAMIC	68PF	5%	50V
C081	1-102-953-00	CERAMIC	18PF	5%	50V
C082	1-101-004-00	CERAMIC	0.01MF		50V
C083	1-101-004-00	CERAMIC	0.01MF		50V
C084	1-101-005-00	CERAMIC	0.022MF		50V
C085	1-102-113-00	CERAMIC	390PF	10%	50V
C086	1-101-005-00	CERAMIC	0.022MF		50V
C087	1-123-318-00	ELECT	33MF	20%	16V
C088	1-123-318-00	ELECT	33MF	20%	16V
C089	1-101-005-00	CERAMIC	0.022MF		50V
C090	1-101-004-00	CERAMIC	0.01MF		50V
C091	1-101-004-00	CERAMIC	0.01MF		50V
C092	1-101-004-00	CERAMIC	0.01MF		50V
C093	1-101-005-00	CERAMIC	0.022MF		50V
C094	1-102-511-00	CERAMIC	13PF	5%	50V
C095	1-101-006-00	CERAMIC	0.047MF		50V
C096	1-101-006-00	CERAMIC	0.047MF		50V

When indicating parts by reference number, please include the board name.

RV-7(ES)

Ref.No.	Part No.	Description			Remark
C097	1-123-333-00	ELECT	100MF	20%	16V
C098	1-101-006-00	CERAMIC	0.047MF		50V
C099	1-101-001-00	CERAMIC	0.001MF		50V
C100	1-123-318-00	ELECT	33MF	20%	16V
C101	1-101-006-00	CERAMIC	0.047MF		50V
C102	1-101-006-00	CERAMIC	0.047MF		50V
C103	1-101-001-00	CERAMIC	0.001MF		50V
C104	1-101-005-00	CERAMIC	0.022MF		50V
C105	1-101-001-00	CERAMIC	0.001MF		50V
C106	1-102-512-00	CERAMIC	16PF	5%	50V
C107	1-101-005-00	CERAMIC	0.022MF		50V
C108	1-123-330-00	ELECT	22MF	20%	16V
C109	1-131-341-00	ELECT(SOLID)	0.1MF	10%	25V
C110	1-101-006-00	CERAMIC	0.047MF		50V
C111	1-101-004-00	CERAMIC	0.01MF		50V
C112	1-101-004-00	CERAMIC	0.01MF		50V
C113	1-101-004-00	CERAMIC	0.01MF		50V
C114	1-101-004-00	CERAMIC	0.01MF		50V
C115	1-101-004-00	CERAMIC	0.01MF		50V
C116	1-101-005-00	CERAMIC	0.022MF		50V
C117	1-123-382-00	ELECT	3.3MF	20%	50V
C118	1-102-520-00	CERAMIC	39PF	5%	50V
C119	1-102-508-00	CERAMIC	10PF	0.5PF	50V
C120	1-161-063-00	CERAMIC	0.1MF	20%	25V
C121	1-101-006-00	CERAMIC	0.047MF		50V
C122	1-101-006-00	CERAMIC	0.047MF		50V
C123	1-101-006-00	CERAMIC	0.047MF		50V
C124	1-101-004-00	CERAMIC	0.01MF		50V
C125	1-101-004-00	CERAMIC	0.01MF		50V
C126	1-102-960-00	CERAMIC	24PF	5%	50V
C127	1-102-960-00	CERAMIC	24PF	5%	50V
C128	1-101-004-00	CERAMIC	0.01MF		50V
C129	1-161-063-00	CERAMIC	0.1MF	20%	25V
C130	1-101-004-00	CERAMIC	0.01MF		50V
C131	1-123-318-00	ELECT	33MF	20%	16V
C132	1-102-948-00	CERAMIC	11PF	5%	50V
C133	1-101-006-00	CERAMIC	0.047MF		50V
C134	1-102-112-00	CERAMIC	330PF	10%	50V
C135	1-123-328-00	ELECT	4.7MF	20%	25V
C136	1-102-112-00	CERAMIC	330PF	10%	50V
C137	1-102-112-00	CERAMIC	330PF	10%	50V
C138	1-101-005-00	CERAMIC	0.022MF		50V
C140	1-101-004-00	CERAMIC	0.01MF		50V
C141	1-101-005-00	CERAMIC	0.022MF		50V
C142	1-101-005-00	CERAMIC	0.022MF		50V
C143	1-123-318-00	ELECT	33MF	20%	16V
C144	1-123-318-00	ELECT	33MF	20%	16V
C145	1-123-356-00	ELECT	10MF	20%	16V
C146	1-101-006-00	CERAMIC	0.047MF		50V
C147	1-102-511-00	CERAMIC	13PF	5%	50V
C148	1-102-522-00	CERAMIC	51PF	5%	50V
C149	1-102-522-00	CERAMIC	51PF	5%	50V
C150	1-102-511-00	CERAMIC	13PF	5%	50V

Ref.No.	Part No.	Description			Remark
C151	1-101-005-00	CERAMIC	0.022MF		50V
C152	1-123-328-00	ELECT	4.7MF	20%	25V
C153	1-101-005-00	CERAMIC	0.022MF		50V
C154	1-123-318-00	ELECT	33MF	20%	16V
C155	1-102-529-00	CERAMIC	100PF	5%	50V
C156	1-123-328-00	ELECT	4.7MF	20%	25V
C157	1-101-005-00	CERAMIC	0.022MF		50V
C158	1-101-005-00	CERAMIC	0.022MF		50V
C159	1-123-318-00	ELECT	33MF	20%	16V
C160	1-101-005-00	CERAMIC	0.022MF		50V
C161	1-123-318-00	ELECT	33MF	20%	16V
C162	1-102-960-00	CERAMIC	24PF	5%	50V
C163	1-101-004-00	CERAMIC	0.01MF		50V
C164	1-123-318-00	ELECT	33MF	20%	16V
C165	1-101-005-00	CERAMIC	0.022MF		50V
C166	1-101-006-00	CERAMIC	0.047MF		50V
C167	1-101-884-00	CERAMIC	56PF	5%	50V
C168	1-102-937-00	CERAMIC	4PF	0.25PF	50V
C169	1-101-004-00	CERAMIC	0.01MF		50V
C170	1-101-004-00	CERAMIC	0.01MF		50V
C171	1-123-380-00	ELECT	1MF	20%	50V
C172	1-123-328-00	ELECT	4.7MF	20%	25V
C173	1-123-328-00	ELECT	4.7MF	20%	25V
C174	1-101-004-00	CERAMIC	0.01MF		50V
C178	1-123-328-00	ELECT	4.7MF	20%	25V
C179	1-101-006-00	CERAMIC	0.047MF		50V
C180	1-123-330-00	ELECT	22MF	20%	16V
C181	1-101-004-00	CERAMIC	0.01MF		50V
C182	1-161-063-00	CERAMIC	0.1MF	20%	25V
C183	1-161-063-00	CERAMIC	0.1MF	20%	25V
C184	1-123-333-00	ELECT	100MF	20%	16V
C185	1-123-311-00	ELECT	1000MF	20%	10V
C186	1-123-356-00	ELECT	10MF	20%	16V
C187	1-102-821-00	CERAMIC	360PF	5%	50V
C188	1-123-311-00	ELECT	1000MF	20%	10V
C189	1-123-311-00	ELECT	1000MF	20%	10V
C190	1-123-319-00	ELECT	47MF	20%	16V
C191	1-161-051-00	CERAMIC	0.01MF	10%	50V
C192	1-161-051-00	CERAMIC	0.01MF	10%	50V
C195	1-101-004-00	CERAMIC	0.01MF		50V

FILTER

CF001	1-527-874-00	FILTER, CERAMIC
CF002	1-527-875-00	FILTER, CERAMIC
CF003	1-527-849-00	FILTER, CERAMIC

CONNECTOR

CN001♠:	1-560-461-00	PIN, CONNECTOR 5P
CN002♠:	1-560-459-00	PIN, CONNECTOR 3P
CN003♠:	1-560-460-00	PIN, CONNECTOR 4P
CN004♠:	1-560-464-00	PIN, CONNECTOR 10P
CN005♠:	1-560-462-00	PIN, CONNECTOR 6P
CN006♠:	1-560-455-00	PIN, CONNECTOR 2P

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description	Remark
CN007●:	1-560-460-00	PIN, CONNECTOR 4P	
CN008●:	1-560-461-00	PIN, CONNECTOR 5P	
CN009●:	1-560-470-00	PIN, CONNECTOR 8P	
CN010●:	1-560-470-00	PIN, CONNECTOR 8P	
CN011	1-561-468-00	SOCKET, CONNECTOR (DIN8P)	

TRIMMER

Ref.No.	Part No.	Description	Remark
CV001	1-141-275-00	CAP, TRIMMER	

DIODE

Ref.No.	Part No.	Description	Remark
D001	8-719-901-33	DIODE 1SS133	
D002	8-719-901-33	DIODE 1SS133	
D003	8-719-901-33	DIODE 1SS133	
D004	8-719-100-56	DIODE RD10EB1	
D005	8-719-100-56	DIODE RD10EB1	
D008	8-719-901-33	DIODE 1SS133	
D009	8-719-901-33	DIODE 1SS133	
D010	8-719-901-33	DIODE 1SS133	
D011	8-719-901-33	DIODE 1SS133	
D012	8-719-901-33	DIODE 1SS133	
D013	8-719-901-33	DIODE 1SS133	
D014	8-719-901-33	DIODE 1SS133	
D015	8-719-901-33	DIODE 1SS133	
D016	8-719-901-33	DIODE 1SS133	
D017	8-719-901-33	DIODE 1SS133	
D018	8-719-901-33	DIODE 1SS133	
D019	8-719-901-33	DIODE 1SS133	
D020	8-719-901-33	DIODE 1SS133	
D021	8-719-901-33	DIODE 1SS133	
D022	8-719-901-33	DIODE 1SS133	
D023	8-719-100-56	DIODE RD10B1	
D024	8-719-100-34	DIODE RD5.6EB1	

DELAY LINE

Ref.No.	Part No.	Description	Remark
DL001	1-415-273-00	DELAY LINE (1H)	
DL002	1-415-198-00	DELAY LINE (1H)	
DL003	1-415-282-00	DELAY LINE	

FUSE

Ref.No.	Part No.	Description	Remark
F001 ⚠.	**1-532-279-00**	**FUSE, TIME LAG T500MMA**	

IC

Ref.No.	Part No.	Description	Remark
IC001	8-759-208-94	IC CX-894	
IC002=>	8-758-661-00	IC CX-866A	
IC003	8-759-208-67	IC CX-867	
IC004	8-741-102-80	IC BX-1028	
IC005	8-741-102-90	IC BX-1029	
IC006	8-741-103-00	IC BX-1030	
IC007	8-759-240-69	IC TC4069UBP	
IC008	8-758-690-00	IC CX-869	
IC009	8-759-208-94	IC CX-894	
IC010	8-752-000-80	IC CX20008	
IC011	8-759-600-08	IC CX-870A	
IC012	8-759-608-82	IC CX-882	
IC013	8-759-919-05	IC CX-7905A	
IC014	8-759-200-60	IC TA7060AP	
IC015	8-759-608-64	IC CX-864	
IC016=>	8-749-910-33	IC BX-1033A	
IC017=>	8-749-910-34	IC BX-1034A	
IC018	8-741-103-20	IC BX-1032	
IC019	8-759-908-68	IC CX-868	
IC020	8-759-979-26	IC CX-7926	
IC021	8-759-240-53	IC TC4053BP	

COIL

Ref.No.	Part No.	Description	Remark
L001	1-408-397-00	MICRO INDUCTOR 1UH	
L002	1-408-397-00	MICRO INDUCTOR 1UH	
L003	1-407-500-31	MICRO INDUCTOR 4.7MMH	
L004	1-408-427-00	MICRO INDUCTOR 330UH	
L005	1-408-420-00	MICRO INDUCTOR 82UH	
L006	1-407-503-31	MICRO INDUCTOR 8.2MMH	
L007	1-408-408-00	MICRO INDUCTOR 8.2UH	
L008	1-408-429-00	MICRO INDUCTOR 470UH	
L009	1-407-503-31	MICRO INDUCTOR 8.2MMH	
L010	1-408-429-00	MICRO INDUCTOR 470UH	
L011	1-407-503-31	MICRO INDUCTOR 8.2MMH	
L012	1-408-426-00	MICRO INDUCTOR 270UH	
L013	1-408-412-00	MICRO INDUCTOR 18UH	
L014	1-408-421-00	MICRO INDUCTOR 100UH	
L015	1-408-421-00	MICRO INDUCTOR 100UH	
L016	1-408-415-00	MICRO INDUCTOR 33UH	
L018	1-408-415-00	MICRO INDUCTOR 33UH	
L020	1-408-422-00	MICRO INDUCTOR 120UH	
L021	1-408-424-00	MICRO INDUCTOR 180UH	
L022	1-408-422-00	MICRO INDUCTOR 120UH	
L023	1-408-421-00	MICRO INDUCTOR 100UH	
L024	1-407-496-31	MICRO INDUCTOR 2.2MMH	

FILTER

Ref.No.	Part No.	Description	Remark
LPF001	1-235-097-00	FILTER, LOW PASS	

VARIABLE COIL

Ref.No.	Part No.	Description	Remark
LV001	1-408-512-00	COIL (VARIABLE)	

TRANSISTOR

Ref.No.	Part No.	Description	Remark
Q001 =>	8-729-245-83	TRANSISTOR 2SC2458	
Q002 =>	8-729-245-83	TRANSISTOR 2SC2458	
Q003 =>	8-729-245-83	TRANSISTOR 2SC2458	
Q004 =>	8-729-245-83	TRANSISTOR 2SC2458	
Q005	8-729-117-54	TRANSISTOR 2SA1175	
Q006 =>	8-729-245-83	TRANSISTOR 2SC2458	
Q007 =>	8-729-245-83	TRANSISTOR 2SC2458	
Q008 =>	8-729-245-83	TRANSISTOR 2SC2458	
Q009	8-729-603-50	TRANSISTOR 2SC403SP	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description		Remark
Q010	8-729-603-50	TRANSISTOR	2SC403SP	
Q011	8-729-603-50	TRANSISTOR	2SC403SP	
Q012	8-729-603-50	TRANSISTOR	2SC403SP	
Q013	=>8-729-245-83	TRANSISTOR	2SC2458	
Q014	=>8-729-245-83	TRANSISTOR	2SC2458	
Q015	=>8-729-245-83	TRANSISTOR	2SC2458	
Q016	8-729-603-50	TRANSISTOR	2SC403SP	
Q017	=>8-729-245-83	TRANSISTOR	2SC2458	
Q018	=>8-729-374-02	TRANSISTOR	2SB740	
Q019	=>8-729-245-83	TRANSISTOR	2SC2458	
Q020	=>8-729-245-83	TRANSISTOR	2SC2458	
Q021	=>8-729-245-83	TRANSISTOR	2SC2458	
Q022	=>8-729-245-83	TRANSISTOR	2SC2458	
Q023	=>8-729-245-83	TRANSISTOR	2SC2458	
Q024	=>8-729-245-83	TRANSISTOR	2SC2458	
Q025	=>8-729-245-83	TRANSISTOR	2SC2458	
Q026	8-729-117-54	TRANSISTOR	2SA1175	
Q027	8-729-117-54	TRANSISTOR	2SA1175	

RESISTOR

Ref.No.	Part No.	Description			Remark
R001	1-246-830-00	CARBON	75	1/8W	
R002	1-246-803-00	CARBON	47K	1/8W	
R003	1-246-830-00	CARBON	75	1/8W	
R004	1-246-830-00	CARBON	75	1/8W	
R005	1-246-802-00	CARBON	39K	1/8W	
R006	1-246-802-00	CARBON	39K	1/8W	
R007	1-246-792-00	CARBON	5.6K	1/8W	
R008	1-246-844-00	CARBON	1.1K	1/8W	
R009	1-246-844-00	CARBON	1.1K	1/8W	
R010	1-246-783-00	CARBON	1K	1/8W	
R011	1-246-801-00	CARBON	33K	1/8W	
R012	1-246-803-00	CARBON	47K	1/8W	
R013	1-246-833-00	CARBON	130	1/8W	
R014	1-246-833-00	CARBON	130	1/8W	
R015	1-246-783-00	CARBON	1K	1/8W	
R016	1-246-783-00	CARBON	1K	1/8W	
R017	1-246-843-00	CARBON	910	1/8W	
R018	1-246-783-00	CARBON	1K	1/8W	
R019	1-246-791-00	CARBON	4.7K	1/8W	
R020	1-246-842-00	CARBON	750	1/8W	
R021	1-246-834-00	CARBON	160	1/8W	
R022	1-246-791-00	CARBON	4.7K	1/8W	
R023	1-246-783-00	CARBON	1K	1/8W	
R024	1-246-851-00	CARBON	4.3K	1/8W	
R025	1-246-842-00	CARBON	750	1/8W	
R026	1-246-797-00	CARBON	15K	1/8W	
R027	1-246-805-00	CARBON	68K	1/8W	
R028	1-246-783-00	CARBON	1K	1/8W	
R029	1-246-787-00	CARBON	2.2K	1/8W	
R030	1-246-807-00	CARBON	100K	1/8W	
R031	1-246-869-00	CARBON	130K	1/8W	
R032	1-247-049-00	CARBON	470K	1/8W	
R033	1-246-796-00	CARBON	12K	1/8W	
R034	1-246-802-00	CARBON	39K	1/8W	
R035	1-246-867-00	CARBON	91K	1/8W	
R036	1-246-809-00	CARBON	150K	1/8W	
R037	1-246-807-00	CARBON	100K	1/8W	
R038	1-246-803-00	CARBON	47K	1/8W	
R039	1-246-799-00	CARBON	22K	1/8W	
R040	1-246-797-00	CARBON	15K	1/8W	
R041	1-246-795-00	CARBON	10K	1/8W	
R042	1-246-791-00	CARBON	4.7K	1/8W	
R043	1-246-847-00	CARBON	2K	1/8W	
R045	1-246-788-00	CARBON	2.7K	1/8W	
R046	1-246-852-00	CARBON	5.1K	1/8W	
R047	1-246-793-00	CARBON	6.8K	1/8W	
R048	1-246-788-00	CARBON	2.7K	1/8W	
R049	1-246-777-00	CARBON	330	1/8W	
R050	1-246-799-00	CARBON	22K	1/8W	
R051	1-246-795-00	CARBON	10K	1/8W	
R052	1-246-842-00	CARBON	750	1/8W	
R053	1-246-795-00	CARBON	10K	1/8W	
R054	1-246-788-00	CARBON	2.7K	1/8W	
R055	1-246-855-00	CARBON	9.1K	1/8W	
R056	1-246-795-00	CARBON	10K	1/8W	
R057	1-246-800-00	CARBON	27K	1/8W	
R058	1-246-861-00	CARBON	30K	1/8W	
R059	1-246-858-00	CARBON	16K	1/8W	
R060	1-246-779-00	CARBON	470	1/8W	
R061	1-246-779-00	CARBON	470	1/8W	
R062	1-246-847-00	CARBON	2K	1/8W	
R063	1-246-834-00	CARBON	160	1/8W	
R064	1-246-854-00	CARBON	7.5K	1/8W	
R065	1-246-787-00	CARBON	2.2K	1/8W	
R066	1-246-789-00	CARBON	3.3K	1/8W	
R067	1-246-795-00	CARBON	10K	1/8W	
R068	1-246-803-00	CARBON	47K	1/8W	
R069	1-246-804-00	CARBON	56K	1/8W	
R070	1-246-804-00	CARBON	56K	1/8W	
R071	1-246-810-00	CARBON	180K	1/8W	
R072	1-246-800-00	CARBON	27K	1/8W	
R073	1-246-863-00	CARBON	43K	1/8W	
R074	1-246-783-00	CARBON	1K	1/8W	
R075	1-246-785-00	CARBON	1.5K	1/8W	
R076	1-246-783-00	CARBON	1K	1/8W	
R077	1-246-785-00	CARBON	1.5K	1/8W	
R078	1-246-799-00	CARBON	22K	1/8W	
R079	1-246-791-00	CARBON	4.7K	1/8W	
R080	1-246-778-00	CARBON	390	1/8W	
R081	1-246-843-00	CARBON	910	1/8W	
R083	1-246-783-00	CARBON	1K	1/8W	
R084	1-246-778-00	CARBON	390	1/8W	
R085	1-246-778-00	CARBON	390	1/8W	
R086	1-246-778-00	CARBON	390	1/8W	
R087	1-246-778-00	CARBON	390	1/8W	
R088	1-246-778-00	CARBON	390	1/8W	

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
R089	1-246-787-00	CARBON	2.2K	1/8W	
R090	1-246-787-00	CARBON	2.2K	1/8W	
R091	1-246-804-00	CARBON	56K	1/8W	
R092	1-246-791-00	CARBON	4.7K	1/8W	
R093	1-246-783-00	CARBON	1K	1/8W	
R094	1-246-804-00	CARBON	56K	1/8W	
R095	1-246-803-00	CARBON	47K	1/8W	
R096	1-246-803-00	CARBON	47K	1/8W	
R097	1-246-799-00	CARBON	22K	1/8W	
R098	1-246-799-00	CARBON	22K	1/8W	
R099	1-246-799-00	CARBON	22K	1/8W	
R100	1-246-803-00	CARBON	47K	1/8W	
R101	1-246-795-00	CARBON	10K	1/8W	
R102	1-246-802-00	CARBON	39K	1/8W	
R103	1-246-791-00	CARBON	4.7K	1/8W	
R104	1-246-783-00	CARBON	1K	1/8W	
R105	1-246-783-00	CARBON	1K	1/8W	
R106	1-246-860-00	CARBON	24K	1/8W	
R107	1-246-850-00	CARBON	3.6K	1/8W	
R108	1-246-849-00	CARBON	3K	1/8W	
R109	1-246-801-00	CARBON	33K	1/8W	
R110	1-246-783-00	CARBON	1K	1/8W	
R111	1-246-848-00	CARBON	2.4K	1/8W	
R112	1-246-783-00	CARBON	1K	1/8W	
R113	1-246-857-00	CARBON	13K	1/8W	
R114	1-246-799-00	CARBON	22K	1/8W	
R115	1-246-849-00	CARBON	3K	1/8W	
R116	1-246-859-00	CARBON	20K	1/8W	
R117	1-246-807-00	CARBON	100K	1/8W	
R118	1-246-807-00	CARBON	100K	1/8W	
R119	1-246-787-00	CARBON	2.2K	1/8W	
R120	1-246-787-00	CARBON	2.2K	1/8W	
R121	1-246-803-00	CARBON	47K	1/8W	
R123	1-246-847-00	CARBON	2K	1/8W	
R124	1-246-777-00	CARBON	330	1/8W	
R125	1-246-850-00	CARBON	3.6K	1/8W	
R126	1-246-805-00	CARBON	68K	1/8W	
R127	1-246-786-00	CARBON	1.8K	1/8W	
R128	1-246-801-00	CARBON	33K	1/8W	
R129	1-246-782-00	CARBON	820	1/8W	
R130	1-246-782-00	CARBON	820	1/8W	
R131	1-246-783-00	CARBON	1K	1/8W	
R132	1-246-783-00	CARBON	1K	1/8W	
R133	1-246-804-00	CARBON	56K	1/8W	
R134	1-246-809-00	CARBON	150K	1/8W	
R135	1-246-801-00	CARBON	33K	1/8W	
R136	1-246-802-00	CARBON	39K	1/8W	
R137	1-246-786-00	CARBON	1.8K	1/8W	
R138	1-246-802-00	CARBON	39K	1/8W	
R139	1-246-783-00	CARBON	1K	1/8W	
R140	1-247-055-00	CARBON	300K	1/8W	
R141	1-246-792-00	CARBON	5.6K	1/8W	
R142	1-246-786-00	CARBON	1.8K	1/8W	

Ref.No.	Part No.	Description			Remark
R143	1-246-840-00	CARBON	510	1/8W	
R144	1-246-786-00	CARBON	1.8K	1/8W	
R145	1-246-855-00	CARBON	9.1K	1/8W	
R146	1-246-788-00	CARBON	2.7K	1/8W	
R147	1-246-795-00	CARBON	10K	1/8W	
R148	1-246-803-00	CARBON	47K	1/8W	
R149	1-246-803-00	CARBON	47K	1/8W	
R150	1-246-810-00	CARBON	180K	1/8W	
R151	1-246-862-00	CARBON	36K	1/8W	
R153	1-246-806-00	CARBON	82K	1/8W	
R154	1-246-831-00	CARBON	91	1/8W	
R155	1-246-801-00	CARBON	33K	1/8W	
R156	1-246-803-00	CARBON	47K	1/8W	
R157	1-246-783-00	CARBON	1K	1/8W	
R158	1-246-803-00	CARBON	47K	1/8W	
R161	1-246-869-00	CARBON	130K	1/8W	
R162	1-246-811-00	CARBON	220K	1/8W	
R163	1-246-786-00	CARBON	1.8K	1/8W	
R164	1-246-843-00	CARBON	910	1/8W	
R165	1-246-795-00	CARBON	10K	1/8W	
R166	1-246-839-00	CARBON	430	1/8W	
R167	1-246-847-00	CARBON	2K	1/8W	
R168	1-246-804-00	CARBON	56K	1/8W	
R169	1-246-804-00	CARBON	56K	1/8W	
R170	1-246-782-00	CARBON	820	1/8W	
R171	1-246-784-00	CARBON	1.2K	1/8W	
R172	1-246-795-00	CARBON	10K	1/8W	
R173	1-246-794-00	CARBON	8.2K	1/8W	
R174	1-246-793-00	CARBON	6.8K	1/8W	
R175	1-246-791-00	CARBON	4.7K	1/8W	
R176	1-246-857-00	CARBON	13K	1/8W	
R177	1-246-852-00	CARBON	5.1K	1/8W	
R178	1-246-847-00	CARBON	2K	1/8W	
R179	1-246-795-00	CARBON	10K	1/8W	
R180	1-246-795-00	CARBON	10K	1/8W	
R181	1-246-830-00	CARBON	75	1/8W	
R182	1-246-801-00	CARBON	33K	1/8W	
R183	1-246-795-00	CARBON	10K	1/8W	
R184	1-246-769-00	CARBON	68	1/8W	
R185	1-246-773-00	CARBON	150	1/8W	
R186	1-246-773-00	CARBON	150	1/8W	
R187	1-246-837-00	CARBON	300	1/8W	
R188	1-246-769-00	CARBON	68	1/8W	
R189	1-246-769-00	CARBON	68	1/8W	
R190	1-246-803-00	CARBON	47K	1/8W	
R191	1-246-797-00	CARBON	15K	1/8W	
R192	1-246-847-00	CARBON	2K	1/8W	
R193	1-246-849-00	CARBON	3K	1/8W	
R194	1-246-803-00	CARBON	47K	1/8W	
R195	1-246-794-00	CARBON	8.2K	1/8W	
R196	1-246-791-00	CARBON	4.7K	1/8W	
R197	1-246-837-00	CARBON	300	1/8W	
R198	1-246-847-00	CARBON	2K	1/8W	

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description		Remark
R199	1-246-805-00	CARBON	68K	1/8W
R207	1-246-847-00	CARBON	2K	1/8W
R208	1-246-860-00	CARBON	24K	1/8W
R209	1-246-860-00	CARBON	24K	1/8W
R210	1-246-769-00	CARBON	68	1/8W

VARIABLE RESISTOR

Ref.No.	Part No.	Description
RV001	1-226-703-00	RES, ADJ, METAL GLAZE 10K
RV002	1-226-774-00	RES, ADJ, METAL GLAZE 47K
RV003	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K
RV004	1-226-774-00	RES, ADJ, METAL GLAZE 47K
RV005	1-226-770-00	RES, ADJ, METAL GLAZE 470
RV006	1-226-772-00	RES, ADJ, METAL GLAZE 4.7K
RV007	1-226-775-00	RES, ADJ, METAL GLAZE 100K
RV008	1-226-775-00	RES, ADJ, METAL GLAZE 100K
RV009	1-226-774-00	RES, ADJ, METAL GLAZE 47K
RV010	1-226-773-00	RES, ADJ, METAL GLAZE 22K
RV011	1-226-708-00	RES, ADJ, SOLID 2.2K
RV012	1-226-706-00	RES, ADJ, SOLID 470
RV013	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K
RV014	1-226-773-00	RES, ADJ, METAL GLAZE 22K
RV015	1-226-703-00	RES, ADJ, METAL GLAZE 10K
RV016	1-226-708-00	RES, ADJ, SOLID 2.2K
RV017	1-226-707-00	RES, ADJ, SOLID 1K
RV018	1-226-703-00	RES, ADJ, METAL GLAZE 10K
RV019	1-226-773-00	RES, ADJ, METAL GLAZE 22K
RV020	1-226-709-00	RES, ADJ, SOLID 4.7K
RV021	1-226-715-00	RES, ADJ, SOLID 470K
RV022	1-226-774-00	RES, ADJ, METAL GLAZE 47K
RV023	1-226-774-00	RES, ADJ, METAL GLAZE 47K
RV024	1-226-773-00	RES, ADJ, METAL GLAZE 22K
RV025	1-226-773-00	RES, ADJ, METAL GLAZE 22K
RV026	1-228-543-00	RES, VAR, CARBON 100K

SWITCH

Ref.No.	Part No.	Description
SW001	1-552-821-00	SWITCH, SLIDE

TRANSFORMER

Ref.No.	Part No.	Description
T001	1-426-093-00	COIL, REC C BPT

CRYSTAL

Ref.No.	Part No.	Description
X001	1-527-345-00	CRYSTAL, OSC

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♠:A-6713-152-A AM-1(ES) BOARD, COMPLETE
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Part No.	Description
♠:3-675-552-00	CASE (A) (MAIN), SHIELD, AM
♠:3-675-553-00	LID, UPPER, SHIELD CASE(A), AM
♠:3-675-554-00	CASE (B) (MAIN), SHIELD, AM
♠:3-675-555-00	LID, UPPER, SHIELD CASE(B), AM

CAPACITOR

Ref.No.	Part No.	Description			Remark
C402	1-161-039-00	CERAMIC	0.001MF	10%	25V
C403	1-161-039-00	CERAMIC	0.001MF	10%	25V
C501	1-123-356-00	ELECT	10MF	20%	16V
C502	1-123-307-00	ELECT	100MF	20%	10V
C504	1-123-307-00	ELECT	100MF	20%	10V
C505	1-131-404-00	ELECT(SOLID)	0.22MF	10%	25V
C506	1-123-356-00	ELECT	10MF	20%	16V
C515	1-161-039-00	CERAMIC	0.001MF	10%	25V
C516	1-130-627-00	MYLAR	0.039MF	5%	50V
C517	1-130-480-00	MYLAR	0.0056MF	5%	50V
C518	1-130-495-00	MYLAR	0.1MF	5%	50V
C519	1-130-483-00	MYLAR	0.01MF	5%	50V
C520	1-123-340-00	ELECT	4.7MF	20%	35V
C521	1-123-295-00	ELECT	100MF	20%	6.3V
C522	1-123-356-00	ELECT	10MF	20%	16V
C523	1-123-340-00	ELECT	4.7MF	20%	35V
C524	1-123-381-00	ELECT	2.2MF	20%	50V
C525	1-102-978-00	CERAMIC	220PF	5%	50V
C526	1-123-356-00	ELECT	10MF	20%	16V
C527	1-123-356-00	ELECT	10MF	20%	16V
C528	1-102-978-00	CERAMIC	220PF	5%	50V
C529	1-123-381-00	ELECT	2.2MF	20%	50V
C530	1-123-340-00	ELECT	4.7MF	20%	35V
C531	1-123-356-00	ELECT	10MF	20%	16V
C532	1-123-295-00	ELECT	100MF	20%	6.3V
C533	1-123-340-00	ELECT	4.7MF	20%	35V
C534	1-130-483-00	MYLAR	0.01MF	5%	50V
C535	1-130-495-00	MYLAR	0.1MF	5%	50V
C536	1-161-039-00	CERAMIC	0.001MF	10%	25V
C537	1-130-627-00	MYLAR	0.039MF	5%	50V
C538	1-130-480-00	MYLAR	0.0056MF	5%	50V
C554	1-123-306-00	ELECT	47MF	20%	10V
C555	1-123-307-00	ELECT	100MF	20%	10V
C556	1-123-307-00	ELECT	100MF	20%	10V
C558	1-123-379-00	ELECT	0.47MF	20%	50V
C559	1-123-379-00	ELECT	0.47MF	20%	50V
C560	1-123-294-00	ELECT	47MF	20%	6.3V
C561	1-123-307-00	ELECT	100MF	20%	10V
C562	1-123-307-00	ELECT	100MF	20%	10V
C563	1-123-306-00	ELECT	47MF	20%	10V
C564	1-102-980-00	CERAMIC	270PF	5%	50V
C565	1-102-980-00	CERAMIC	270PF	5%	50V
C568	1-130-477-00	MYLAR	0.0033MF	5%	50V
C569	1-130-479-00	MYLAR	0.0047MF	5%	50V
C570	1-129-709-00	FILM	0.0039MF	10%	630V
C571	1-123-356-00	ELECT	10MF	20%	16V
C572	1-123-332-00	ELECT	47MF	20%	16V
C574	1-102-114-00	CERAMIC	470PF	10%	50V
C575	1-102-116-00	CERAMIC	680PF	10%	50V
C577	1-123-294-00	ELECT	47MF	20%	6.3V
C578	1-102-115-00	CERAMIC	560PF	10%	50V

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
C579	1-130-488-00	MYLAR	0.027MF	5%	50V
C580	1-102-973-00	CERAMIC	100PF	5%	50V
C581	1-130-473-00	MYLAR	0.0015MF	5%	50V
C582	1-130-482-00	MYLAR	0.0082MF	5%	50V
C583	1-102-947-00	CERAMIC	10PF	5%	50V
C584	1-102-114-00	CERAMIC	470PF	10%	50V
C585	1-102-116-00	CERAMIC	680PF	10%	50V
C590	1-102-973-00	CERAMIC	100PF	5%	50V
C591	1-130-473-00	MYLAR	0.0015MF	5%	50V
C592	1-130-482-00	MYLAR	0.0082MF	5%	50V
C593	1-102-947-00	CERAMIC	10PF	5%	50V
C594	1-123-356-00	ELECT	10MF	20%	16V
C595	1-123-356-00	ELECT	10MF	20%	16V
C596	1-123-380-00	ELECT	1MF	20%	50V
C597	1-123-356-00	ELECT	10MF	20%	16V
C598	1-123-356-00	ELECT	10MF	20%	16V
C599	1-123-380-00	ELECT	1MF	20%	50V
C600	1-123-340-00	ELECT	4.7MF	20%	35V
C601	1-123-294-00	ELECT	47MF	20%	6.3V
C602	1-123-356-00	ELECT	10MF	20%	16V
C603	1-123-356-00	ELECT	10MF	20%	16V
C604	1-123-380-00	ELECT	1MF	20%	50V
C605	1-123-380-00	ELECT	1MF	20%	50V
C606	1-123-333-00	ELECT	100MF	20%	16V
C607	1-123-332-00	ELECT	47MF	20%	16V
C608	1-123-306-00	ELECT	47MF	20%	10V
C609	1-123-308-00	ELECT	220MF	20%	10V
C610	1-123-332-00	ELECT	47MF	20%	16V
C611	1-123-332-00	ELECT	47MF	20%	16V
C612	1-102-116-00	CERAMIC	680PF	10%	50V
C613	1-123-356-00	ELECT	10MF	20%	16V
C614	1-131-404-00	ELECT(SOLID)	0.22MF	10%	25V
C615	1-123-356-00	ELECT	10MF	20%	16V
C616	1-123-380-00	ELECT	1MF	20%	50V
C617	1-123-380-00	ELECT	1MF	20%	50V
C618	1-123-356-00	ELECT	10MF	20%	16V
C619	1-123-356-00	ELECT	10MF	20%	16V
C621	1-123-356-00	ELECT	10MF	20%	16V
C623	1-161-021-00	CERAMIC	0.047MF	10%	25V
C626	1-123-309-00	ELECT	330MF	20%	10V
C631	1-123-380-00	ELECT	1MF	20%	50V
C632	1-161-023-00	CERAMIC	0.068MF	10%	25V
C634	1-123-356-00	ELECT	10MF	20%	16V
C635	1-123-356-00	ELECT	10MF	20%	16V
C637	1-130-487-00	MYLAR	0.02MF	5%	50V
C638	1-123-380-00	ELECT	1MF	20%	50V
C639	1-161-023-00	CERAMIC	0.068MF	10%	25V
C644	1-130-487-00	MYLAR	0.02MF	5%	50V
C645	1-123-356-00	ELECT	10MF	20%	16V
C646	1-123-356-00	ELECT	10MF	20%	16V
C652	1-161-016-00	CERAMIC	0.018MF	10%	25V
C653	1-161-015-00	CERAMIC	0.015MF	10%	25V

Ref.No.	Part No.	Description			Remark
C655	1-161-015-00	CERAMIC	0.015MF	10%	25V
C656	1-102-978-00	CERAMIC	220PF	5%	50V
C657	1-102-978-00	CERAMIC	220PF	5%	50V
C801	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C802	1-123-356-00	ELECT	10MF	20%	16V
C803	1-123-307-00	ELECT	100MF	20%	10V
C807	1-123-356-00	ELECT	10MF	20%	16V
C808	1-123-356-00	ELECT	10MF	20%	16V
C809	1-123-356-00	ELECT	10MF	20%	16V
C810	1-123-356-00	ELECT	10MF	20%	16V
C814	1-123-356-00	ELECT	10MF	20%	16V
C815	1-123-356-00	ELECT	10MF	20%	16V
C827	1-123-380-00	ELECT	1MF	20%	50V
C828	1-123-380-00	ELECT	1MF	20%	50V
C831	1-123-356-00	ELECT	10MF	20%	16V
C832	1-123-332-00	ELECT	47MF	20%	16V
C844	1-130-479-00	MYLAR	0.0047MF	5%	50V
C845	1-130-473-00	MYLAR	0.0015MF	5%	50V
C852	1-161-021-00	CERAMIC	0.047MF	10%	25V
C853	1-123-330-00	ELECT	22MF	20%	16V
C854	1-123-308-00	ELECT	220MF	20%	10V
C855	1-123-330-00	ELECT	22MF	20%	16V
C862	1-123-356-00	ELECT	10MF	20%	16V
C863	1-123-356-00	ELECT	10MF	20%	16V

CONNECTOR

CN001♠:1-560-591-00 PIN, CONNECTOR 7P
CN002♠:1-560-469-00 PIN, CONNECTOR 6P
CN003♠:1-560-466-00 PIN, CONNECTOR 3P
CN005♠:1-560-470-00 PIN, CONNECTOR 8P
CN006♠:1-560-466-00 PIN, CONNECTOR 3P

CN007♠:1-560-466-00 PIN, CONNECTOR 3P
CN008♠:1-560-467-00 PIN, CONNECTOR 4P
CN009♠:1-560-470-00 PIN, CONNECTOR 8P
CN010♠:1-560-469-00 PIN, CONNECTOR 6P
CN011♠:1-560-471-00 PIN, CONNECTOR 10P

CN012♠:1-560-466-00 PIN, CONNECTOR 3P

TRIMMER

CT501 1-141-215-00 CAP, TRIMMER
CT502 1-141-215-00 CAP, TRIMMER

DIODE

D504 =>8-719-901-33 DIODE 1SS133
D505 =>8-719-901-33 DIODE 1SS133
D507 =>8-719-901-33 DIODE 1SS133
D508 =>8-719-901-33 DIODE 1SS133
D509 =>8-719-901-33 DIODE 1SS133

D510 =>8-719-901-33 DIODE 1SS133
D511 =>8-719-901-33 DIODE 1SS133

When indicating parts by reference number, please include the board name.

AM-1(ES)

Ref.No.	Part No.	Description	Remark
D512	=>8-719-901-33	DIODE 1SS133	
D513	=>8-719-901-33	DIODE 1SS133	
D514	=>8-719-901-33	DIODE 1SS133	
D515	=>8-719-901-33	DIODE 1SS133	
D516	=>8-719-901-33	DIODE 1SS133	
D517	=>8-719-901-33	DIODE 1SS133	
D518	=>8-719-901-33	DIODE 1SS133	
D519	=>8-719-901-33	DIODE 1SS133	
D525	8-719-113-07	DIODE RD13E-B	
D526	8-719-113-07	DIODE RD13E-B	
D527	8-719-113-07	DIODE RD13E-B	
D528	8-719-113-07	DIODE RD13E-B	
D531	=>8-719-901-33	DIODE 1SS133	
D532	=>8-719-901-33	DIODE 1SS133	
D533	=>8-719-901-33	DIODE 1SS133	
D534	=>8-719-901-33	DIODE 1SS133	
D551	=>8-719-901-33	DIODE 1SS133	
D552	=>8-719-901-33	DIODE 1SS133	
D553	=>8-719-901-33	DIODE 1SS133	
D554	=>8-719-901-33	DIODE 1SS133	
D560	8-719-113-07	DIODE RD13E-B	
D561	8-719-113-07	DIODE RD13E-B	
D562	8-719-113-07	DIODE RD13E-B	
D563	8-719-113-07	DIODE RD13E-B	
D951	=>8-719-901-33	DIODE 1SS133	
D952	=>8-719-901-33	DIODE 1SS133	

IC

Ref.No.	Part No.	Description	Remark
IC501	8-759-240-52	IC TC4052BP	
IC506	8-759-240-53	IC TC4053BP	
IC507	=>8-759-905-71	IC NE571N	
IC508	8-759-240-53	IC TC4053BP	
IC509	8-759-145-58	IC UPC4558C	
IC510	8-759-145-58	IC UPC4558C	
IC511	8-759-145-58	IC UPC4558C	
IC512	8-759-145-58	IC UPC4558C	
IC513	8-759-145-58	IC UPC4558C	
IC520	8-759-145-58	IC UPC4558C	
IC521	8-759-240-53	IC TC4053BP	
IC522	8-759-618-48	IC M51848L	
IC524	8-759-240-52	IC TC4052BP	
IC525	8-752-006-10	IC CX20061	

COIL

Ref.No.	Part No.	Description	Remark
L501	1-459-351-00	COIL (WITH CORE)	
L502	1-459-351-00	COIL (WITH CORE)	
L505	1-407-710-00	MICRO INDUCTOR 270UH	
L506	1-407-709-00	MICRO INDUCTOR 220UH	
L508	1-407-492-00	MICRO INDUCTOR 1MMH	
L509	1-407-717-00	MICRO INDUCTOR 1MMH	
L510	1-407-494-00	MICRO INDUCTOR 1.5MMH	
L513	1-407-718-00	MICRO INDUCTOR 1.2MMH	
L514	1-407-717-00	MICRO INDUCTOR 1MMH	
L520	1-407-176-XX	MICRO INDUCTOR 390UH	

VARIABLE COIL

Ref.No.	Part No.	Description	Remark
LV501	1-408-523-00	COIL, VARIABLE	
LV502	1-408-523-00	COIL, VARIABLE	
LV503	1-408-524-00	INDUCTOR, ADJ	

TRANSISTOR

Ref.No.	Part No.	Description	Remark
Q501	8-729-178-54	TRANSISTOR 2SC2785	
Q503	8-729-178-54	TRANSISTOR 2SC2785	
Q504	8-729-178-54	TRANSISTOR 2SC2785	
Q505	=>8-729-606-32	TRANSISTOR 2SC2603	
Q506	=>8-729-117-54	TRANSISTOR 2SA1175	
Q507	=>8-729-606-32	TRANSISTOR 2SC2603	
Q508	=>8-729-117-54	TRANSISTOR 2SA1175	
Q509	8-729-178-54	TRANSISTOR 2SC2785	
Q511	8-729-178-54	TRANSISTOR 2SC2785	
Q512	8-729-178-54	TRANSISTOR 2SC2785	
Q513	8-729-967-32	TRANSISTOR 2SC2673	
Q515	8-729-178-54	TRANSISTOR 2SC2785	
Q517	8-729-988-12	TRANSISTOR 2SA881	
Q518	8-729-178-54	TRANSISTOR 2SC2785	
Q522	8-729-908-62	TRANSISTOR 2SD786	
Q523	8-729-612-77	TRANSISTOR 2SA1027R	
Q524	8-729-178-54	TRANSISTOR 2SC2785	
Q525	8-729-178-54	TRANSISTOR 2SC2785	
Q529	8-729-908-62	TRANSISTOR 2SD786	
Q530	=>8-729-612-77	TRANSISTOR 2SA1027R	
Q531	8-729-178-54	TRANSISTOR 2SC2785	
Q532	8-729-384-48	TRANSISTOR 2SA844	
Q533	8-729-384-48	TRANSISTOR 2SA844	
Q534	8-729-384-48	TRANSISTOR 2SA844	
Q535	8-729-384-48	TRANSISTOR 2SA844	
Q536	8-729-178-54	TRANSISTOR 2SC2785	
Q537	8-729-178-54	TRANSISTOR 2SC2785	
Q538	8-729-178-54	TRANSISTOR 2SC2785	
Q539	8-729-178-54	TRANSISTOR 2SC2785	
Q540	8-729-967-32	TRANSISTOR 2SC2673	
Q541	8-729-178-54	TRANSISTOR 2SC2785	
Q542	8-729-178-54	TRANSISTOR 2SC2785	
Q544	8-729-178-54	TRANSISTOR 2SC2785	
Q545	8-729-334-58	TRANSISTOR 2SC1345	
Q546	8-729-334-58	TRANSISTOR 2SC1345	
Q551	8-729-178-54	TRANSISTOR 2SC2785	
Q552	8-729-178-54	TRANSISTOR 2SC2785	
Q553	8-729-178-54	TRANSISTOR 2SC2785	
Q554	8-729-178-54	TRANSISTOR 2SC2785	
Q555	=>8-729-606-32	TRANSISTOR 2SC2603	
Q556	=>8-729-606-32	TRANSISTOR 2SC2603	
Q557	8-729-178-54	TRANSISTOR 2SC2785	
Q583	=>8-729-117-54	TRANSISTOR 2SA1175	
Q584	8-729-178-54	TRANSISTOR 2SC2785	
Q585	8-729-178-54	TRANSISTOR 2SC2785	

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
Q586	8-729-178-54	TRANSISTOR	2SC2785		
Q589	=>8-729-204-83	TRANSISTOR	2SA1048-GR		
Q601	8-729-178-54	TRANSISTOR	2SC2785		
Q602	8-729-178-54	TRANSISTOR	2SC2785		
Q603	8-729-178-54	TRANSISTOR	2SC2785		
Q604	8-729-178-54	TRANSISTOR	2SC2785		
Q605	8-729-178-54	TRANSISTOR	2SC2785		
Q606	8-729-178-54	TRANSISTOR	2SC2785		
Q607	8-729-178-54	TRANSISTOR	2SC2785		
Q608	8-729-988-12	TRANSISTOR	2SA881		
Q609	8-729-178-54	TRANSISTOR	2SC2785		
Q610	8-729-178-54	TRANSISTOR	2SC2785		
Q611	=>8-729-204-83	TRANSISTOR	2SA1048-GR		
Q612	8-729-178-54	TRANSISTOR	2SC2785		
Q613	=>8-729-204-83	TRANSISTOR	2SA1048-GR		
Q614	8-729-178-54	TRANSISTOR	2SC2785		
Q615	8-729-178-54	TRANSISTOR	2SC2785		
Q951	=>8-729-117-54	TRANSISTOR	2SA1175		
Q952	=>8-729-117-54	TRANSISTOR	2SA1175		

RESISTOR

Ref.No.	Part No.	Description			Remark
R401	1-246-807-00	CARBON	100K	1/8W	
R402	1-246-807-00	CARBON	100K	1/8W	
R403	1-246-783-00	CARBON	1K	1/8W	
R404	1-246-795-00	CARBON	10K	1/8W	
R405	1-246-798-00	CARBON	18K	1/8W	
R406	1-247-046-00	CARBON	270K	1/8W	
R407	1-246-773-00	CARBON	150	1/8W	
R408	1-246-800-00	CARBON	27K	1/8W	
R409	1-246-800-00	CARBON	27K	1/8W	
R410	1-247-046-00	CARBON	270K	1/8W	
R411	1-246-798-00	CARBON	18K	1/8W	
R412	1-246-773-00	CARBON	150	1/8W	
R413	1-246-783-00	CARBON	1K	1/8W	
R414	1-246-807-00	CARBON	100K	1/8W	
R415	1-246-795-00	CARBON	10K	1/8W	
R416	1-246-807-00	CARBON	100K	1/8W	
R417	1-246-805-00	CARBON	68K	1/8W	
R418	1-246-807-00	CARBON	100K	1/8W	
R419	1-246-805-00	CARBON	68K	1/8W	
R420	1-246-807-00	CARBON	100K	1/8W	
R421	1-246-803-00	CARBON	47K	1/8W	
R422	1-247-046-00	CARBON	270K	1/8W	
R423	1-247-046-00	CARBON	270K	1/8W	
R424	1-246-805-00	CARBON	68K	1/8W	
R425	1-246-797-00	CARBON	15K	1/8W	
R426	1-246-803-00	CARBON	47K	1/8W	
R427	1-247-046-00	CARBON	270K	1/8W	
R428	1-246-805-00	CARBON	68K	1/8W	
R429	1-246-797-00	CARBON	15K	1/8W	
R433	1-246-803-00	CARBON	47K	1/8W	
R434	1-246-799-00	CARBON	22K	1/8W	
R435	1-246-794-00	CARBON	8.2K	1/8W	
R436	1-246-794-00	CARBON	8.2K	1/8W	

Ref.No.	Part No.	Description			Remark
R437	1-246-790-00	CARBON	3.9K	1/8W	
R438	1-246-790-00	CARBON	3.9K	1/8W	
R439	1-246-794-00	CARBON	8.2K	1/8W	
R440	1-246-794-00	CARBON	8.2K	1/8W	
R441	1-246-799-00	CARBON	22K	1/8W	
R442	1-246-794-00	CARBON	8.2K	1/8W	
R443	1-246-799-00	CARBON	22K	1/8W	
R444	1-246-794-00	CARBON	8.2K	1/8W	
R445	1-246-801-00	CARBON	33K	1/8W	
R446	1-246-799-00	CARBON	22K	1/8W	
R447	1-246-799-00	CARBON	22K	1/8W	
R448	1-246-799-00	CARBON	22K	1/8W	
R449	1-246-799-00	CARBON	22K	1/8W	
R450	1-246-801-00	CARBON	33K	1/8W	
R451	1-246-801-00	CARBON	33K	1/8W	
R452	1-246-807-00	CARBON	100K	1/8W	
R453	1-246-805-00	CARBON	68K	1/8W	
R454	1-246-805-00	CARBON	68K	1/8W	
R455	1-246-805-00	CARBON	68K	1/8W	
R456	1-246-794-00	CARBON	8.2K	1/8W	
R457	1-246-811-00	CARBON	220K	1/8W	
R458	1-246-807-00	CARBON	100K	1/8W	
R459	1-246-805-00	CARBON	68K	1/8W	
R461	1-246-801-00	CARBON	33K	1/8W	
R462	1-246-805-00	CARBON	68K	1/8W	
R463	1-246-807-00	CARBON	100K	1/8W	
R464	1-246-787-00	CARBON	2.2K	1/8W	
R465	1-246-789-00	CARBON	3.3K	1/8W	
R466	1-246-794-00	CARBON	8.2K	1/8W	
R467	1-246-811-00	CARBON	220K	1/8W	
R468	1-246-783-00	CARBON	1K	1/8W	
R469	1-246-805-00	CARBON	68K	1/8W	
R470	1-246-805-00	CARBON	68K	1/8W	
R471	1-246-805-00	CARBON	68K	1/8W	
R472	1-246-807-00	CARBON	100K	1/8W	
R473	1-246-807-00	CARBON	100K	1/8W	
R474	1-246-805-00	CARBON	68K	1/8W	
R475	1-246-805-00	CARBON	68K	1/8W	
R476	1-246-807-00	CARBON	100K	1/8W	
R477	1-246-805-00	CARBON	68K	1/8W	
R478	1-246-807-00	CARBON	100K	1/8W	
R479	1-246-794-00	CARBON	8.2K	1/8W	
R480	1-246-783-00	CARBON	1K	1/8W	
R481	1-246-811-00	CARBON	220K	1/8W	
R485	1-246-803-00	CARBON	47K	1/8W	
R486	1-247-046-00	CARBON	270K	1/8W	
R501	1-246-803-00	CARBON	47K	1/8W	
R502	1-246-803-00	CARBON	47K	1/8W	
R516	1-246-805-00	CARBON	68K	1/8W	
R517	1-246-811-00	CARBON	220K	1/8W	
R519	1-246-801-00	CARBON	33K	1/8W	

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description				Remark
R520	1-246-804-00	CARBON	56K		1/8W	
R521	1-246-808-00	CARBON	120K		1/8W	
R522	1-215-449-31	METAL	15K	1%	1/6W	
R523	1-215-413-00	METAL	470	1%	1/6W	
R524	1-215-449-31	METAL	15K	1%	1/6W	
R525	1-215-456-00	METAL	30K	1%	1/6W	
R526	1-215-463-00	METAL	56K	1%	1/6W	
R527	1-246-861-00	CARBON	30K		1/8W	
R528	1-246-797-00	CARBON	15K		1/8W	
R529	1-246-797-00	CARBON	15K		1/8W	
R530	1-246-791-00	CARBON	4.7K		1/8W	
R531	1-246-801-00	CARBON	33K		1/8W	
R532	1-246-787-00	CARBON	2.2K		1/8W	
R533	1-246-799-00	CARBON	22K		1/8W	
R534	1-246-807-00	CARBON	100K		1/8W	
R536	1-246-863-00	CARBON	43K		1/8W	
R537	1-246-811-00	CARBON	220K		1/8W	
R538	1-246-804-00	CARBON	56K		1/8W	
R539	1-246-803-00	CARBON	47K		1/8W	
R540	1-246-789-00	CARBON	3.3K		1/8W	
R545	1-246-789-00	CARBON	3.3K		1/8W	
R546	1-246-811-00	CARBON	220K		1/8W	
R547	1-246-863-00	CARBON	43K		1/8W	
R548	1-246-803-00	CARBON	47K		1/8W	
R549	1-246-807-00	CARBON	100K		1/8W	
R550	1-246-805-00	CARBON	68K		1/8W	
R551	1-246-811-00	CARBON	220K		1/8W	
R554	1-246-801-00	CARBON	33K		1/8W	
R555	1-246-804-00	CARBON	56K		1/8W	
R556	1-246-808-00	CARBON	120K		1/8W	
R557	1-215-449-31	METAL	15K	1%	1/6W	
R558	1-215-413-00	METAL	470	1%	1/6W	
R559	1-215-449-31	METAL	15K	1%	1/6W	
R560	1-215-463-00	METAL	56K	1%	1/6W	
R561	1-215-456-00	METAL	30K	1%	1/6W	
R562	1-246-861-00	CARBON	30K		1/8W	
R563	1-246-797-00	CARBON	15K		1/8W	
R564	1-246-797-00	CARBON	15K		1/8W	
R565	1-246-807-00	CARBON	100K		1/8W	
R566	1-246-799-00	CARBON	22K		1/8W	
R567	1-246-791-00	CARBON	4.7K		1/8W	
R568	1-246-801-00	CARBON	33K		1/8W	
R569	1-246-787-00	CARBON	2.2K		1/8W	
R573	1-246-759-00	CARBON	10		1/8W	
R574	1-246-759-00	CARBON	10		1/8W	
R575	1-246-980-00	CARBON	3.3	5%	1/8W	F
R577	1-246-859-00	CARBON	20K		1/8W	
R580	1-246-799-00	CARBON	22K		1/8W	
R582	1-246-794-00	CARBON	8.2K		1/8W	
R588	1-246-784-00	CARBON	1.2K		1/8W	
R589	1-246-784-00	CARBON	1.2K		1/8W	
R590	1-246-787-00	CARBON	2.2K		1/8W	
R591	1-246-787-00	CARBON	2.2K		1/8W	
R593	1-246-804-00	CARBON	56K		1/8W	
R594	1-246-807-00	CARBON	100K		1/8W	
R595	1-246-795-00	CARBON	10K		1/8W	
R596	1-246-519-00	CARBON	82K	5%	1/4W	
R603	1-246-791-00	CARBON	4.7K		1/8W	
R604	1-246-791-00	CARBON	4.7K		1/8W	
R605	1-246-521-00	CARBON	100K	5%	1/4W	
R606	1-246-539-00	CARBON	560K	5%	1/4W	
R607	1-246-517-00	CARBON	68K	5%	1/4W	
R608	1-246-768-00	CARBON	56		1/8W	
R609	1-246-858-00	CARBON	16K		1/8W	
R610	1-247-056-00	CARBON	360K		1/8W	
R611	1-246-797-00	CARBON	15K		1/8W	
R612	1-246-513-00	CARBON	47K	5%	1/4W	
R613	1-246-796-00	CARBON	12K		1/8W	
R614	1-246-795-00	CARBON	10K		1/8W	
R615	1-246-505-00	CARBON	22K	5%	1/4W	
R616	1-246-792-00	CARBON	5.6K		1/8W	
R617	1-246-807-00	CARBON	100K		1/8W	
R618	1-246-795-00	CARBON	10K		1/8W	
R619	1-246-519-00	CARBON	82K	5%	1/4W	
R628	1-246-521-00	CARBON	100K	5%	1/4W	
R629	1-246-539-00	CARBON	560K	5%	1/4W	
R630	1-246-517-00	CARBON	68K	5%	1/4W	
R631	1-246-768-00	CARBON	56		1/8W	
R632	1-246-858-00	CARBON	16K		1/8W	
R633	1-247-056-00	CARBON	360K		1/8W	
R634	1-246-797-00	CARBON	15K		1/8W	
R635	1-246-513-00	CARBON	47K	5%	1/4W	
R636	1-246-796-00	CARBON	12K		1/8W	
R637	1-246-795-00	CARBON	10K		1/8W	
R638	1-246-505-00	CARBON	22K	5%	1/4W	
R639	1-246-792-00	CARBON	5.6K		1/8W	
R640	1-246-799-00	CARBON	22K		1/8W	
R641	1-246-801-00	CARBON	33K		1/8W	
R642	1-246-794-00	CARBON	8.2K		1/8W	
R643	1-247-059-00	CARBON	620K		1/8W	
R644	1-246-799-00	CARBON	22K		1/8W	
R645	1-246-794-00	CARBON	8.2K		1/8W	
R646	1-247-059-00	CARBON	620K		1/8W	
R647	1-247-053-00	CARBON	1M		1/8W	
R648	1-247-053-00	CARBON	1M		1/8W	
R649	1-247-047-00	CARBON	330K		1/8W	
R650	1-246-791-00	CARBON	4.7K		1/8W	
R651	1-246-799-00	CARBON	22K		1/8W	
R652	1-246-789-00	CARBON	3.3K		1/8W	
R653	1-247-046-00	CARBON	270K		1/8W	
R654	1-246-811-00	CARBON	220K		1/8W	
R655	1-246-789-00	CARBON	3.3K		1/8W	
R656	1-247-046-00	CARBON	270K		1/8W	
R657	1-246-811-00	CARBON	220K		1/8W	
R658	1-246-807-00	CARBON	100K		1/8W	
R659	1-246-805-00	CARBON	68K		1/8W	

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description				Remark
R660	1-246-807-00	CARBON	100K		1/8W	
R661	1-246-805-00	CARBON	68K		1/8W	
R662	1-246-787-00	CARBON	2.2K		1/8W	
R663	1-247-048-00	CARBON	390K		1/8W	
R664	1-246-795-00	CARBON	10K		1/8W	
R665	1-246-795-00	CARBON	10K		1/8W	
R666	1-246-795-00	CARBON	10K		1/8W	
R668	1-246-795-00	CARBON	10K		1/8W	
R669	1-246-803-00	CARBON	47K		1/8W	
R670	1-246-784-00	CARBON	1.2K		1/8W	
R671 ⚠	1-212-869-00	FUSIBLE	33	5%	1/4W	F
R672	1-246-771-00	CARBON	100		1/8W	
R673	1-246-788-00	CARBON	2.7K		1/8W	
R686	1-246-803-00	CARBON	47K		1/8W	
R687	1-246-787-00	CARBON	2.2K		1/8W	
R688	1-246-811-00	CARBON	220K		1/8W	
R689	1-246-811-00	CARBON	220K		1/8W	
R690	1-246-803-00	CARBON	47K		1/8W	
R691	1-246-787-00	CARBON	2.2K		1/8W	
R692	1-247-059-00	CARBON	620K		1/8W	
R693	1-247-059-00	CARBON	620K		1/8W	
R694	1-246-789-00	CARBON	3.3K		1/8W	
R695	1-246-789-00	CARBON	3.3K		1/8W	
R696	1-246-792-00	CARBON	5.6K		1/8W	
R697	1-246-791-00	CARBON	4.7K		1/8W	
R698	1-246-803-00	CARBON	47K		1/8W	
R699	1-246-792-00	CARBON	5.6K		1/8W	
R700	1-246-791-00	CARBON	4.7K		1/8W	
R701	1-246-803-00	CARBON	47K		1/8W	
R704	1-246-855-00	CARBON	9.1K		1/8W	
R705	1-246-777-00	CARBON	330		1/8W	
R706	1-246-807-00	CARBON	100K		1/8W	
R709	1-246-791-00	CARBON	4.7K		1/8W	
R711	1-246-801-00	CARBON	33K		1/8W	
R714	1-246-803-00	CARBON	47K		1/8W	
R715	1-246-771-00	CARBON	100		1/8W	
R716	1-246-771-00	CARBON	100		1/8W	
R717	1-246-803-00	CARBON	47K		1/8W	
R721	1-246-800-00	CARBON	27K		1/8W	
R722	1-246-860-00	CARBON	24K		1/8W	
R723	1-246-861-00	CARBON	30K		1/8W	
R724	1-246-776-00	CARBON	270		1/8W	
R726	1-246-807-00	CARBON	100K		1/8W	
R727	1-246-797-00	CARBON	15K		1/8W	
R728	1-246-788-00	CARBON	2.7K		1/8W	
R729	1-246-771-00	CARBON	100		1/8W	
R730	1-246-797-00	CARBON	15K		1/8W	
R732	1-246-807-00	CARBON	100K		1/8W	
R733	1-246-797-00	CARBON	15K		1/8W	
R734	1-246-800-00	CARBON	27K		1/8W	
R735	1-246-860-00	CARBON	24K		1/8W	
R736	1-246-861-00	CARBON	30K		1/8W	
R737	1-246-776-00	CARBON	270		1/8W	

Ref.No.	Part No.	Description				Remark
R739	1-246-807-00	CARBON	100K		1/8W	
R740	1-246-797-00	CARBON	15K		1/8W	
R741	1-246-788-00	CARBON	2.7K		1/8W	
R742	1-246-771-00	CARBON	100		1/8W	
R743	1-246-797-00	CARBON	15K		1/8W	
R745	1-246-807-00	CARBON	100K		1/8W	
R746	1-246-797-00	CARBON	15K		1/8W	
R747	1-246-792-00	CARBON	5.6K		1/8W	
R748	1-246-792-00	CARBON	5.6K		1/8W	
R749	1-246-807-00	CARBON	100K		1/8W	
R750	1-246-852-00	CARBON	5.1K		1/8W	
R751	1-246-799-00	CARBON	22K		1/8W	
R752	1-246-801-00	CARBON	33K		1/8W	
R753	1-246-796-00	CARBON	12K		1/8W	
R755	1-246-801-00	CARBON	33K		1/8W	
R756	1-246-807-00	CARBON	100K		1/8W	
R757	1-246-852-00	CARBON	5.1K		1/8W	
R758	1-246-801-00	CARBON	33K		1/8W	
R759	1-246-799-00	CARBON	22K		1/8W	
R760	1-246-796-00	CARBON	12K		1/8W	
R801 ⚠	1-213-128-00	METAL	56	5%	1W	F
R802	1-246-756-00	CARBON	5.6		1/8W	
R817	1-246-799-00	CARBON	22K		1/8W	
R818	1-246-799-00	CARBON	22K		1/8W	
R819	1-246-771-00	CARBON	100		1/8W	
R820	1-246-805-00	CARBON	68K		1/8W	
R823	1-246-805-00	CARBON	68K		1/8W	
R826	1-246-771-00	CARBON	100		1/8W	
R827	1-246-783-00	CARBON	1K		1/8W	
R829	1-246-794-00	CARBON	8.2K		1/8W	
R830	1-246-805-00	CARBON	68K		1/8W	
R839	1-246-801-00	CARBON	33K		1/8W	
R840	1-246-801-00	CARBON	33K		1/8W	
R841	1-246-795-00	CARBON	10K		1/8W	
R842	1-246-799-00	CARBON	22K		1/8W	
R843	1-246-799-00	CARBON	22K		1/8W	
R844	1-246-795-00	CARBON	10K		1/8W	
R845	1-246-795-00	CARBON	10K		1/8W	
R846	1-246-783-00	CARBON	1K		1/8W	
R848	1-246-787-00	CARBON	2.2K		1/8W	
R849	1-246-800-00	CARBON	27K		1/8W	
R854	1-246-799-00	CARBON	22K		1/8W	
R855	1-246-799-00	CARBON	22K		1/8W	
R856	1-246-780-00	CARBON	560		1/8W	
R861	1-246-795-00	CARBON	10K		1/8W	
R862	1-246-791-00	CARBON	4.7K		1/8W	
R863	1-246-799-00	CARBON	22K		1/8W	
R864	1-246-799-00	CARBON	22K		1/8W	
R865	1-246-795-00	CARBON	10K		1/8W	
R866	1-246-800-00	CARBON	27K		1/8W	
R867	1-246-800-00	CARBON	27K		1/8W	
R871	1-246-807-00	CARBON	100K		1/8W	
R872	1-246-799-00	CARBON	22K		1/8W	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
R873	1-246-799-00	CARBON	22K	1/8W	
R874	1-246-787-00	CARBON	2.2K	1/8W	
R875	1-246-783-00	CARBON	1K	1/8W	
R901	1-246-801-00	CARBON	33K	1/8W	
R912	1-246-805-00	CARBON	68K	1/8W	
R913	1-246-807-00	CARBON	100K	1/8W	
R951	1-246-807-00	CARBON	100K	1/8W	
R952	1-247-051-00	CARBON	680K	1/8W	
R953	1-247-051-00	CARBON	680K	1/8W	
R954	1-246-807-00	CARBON	100K	1/8W	
R961	1-246-792-00	CARBON	5.6K	1/8W	
R962	1-246-799-00	CARBON	22K	1/8W	
R963	1-246-792-00	CARBON	5.6K	1/8W	
R964	1-246-799-00	CARBON	22K	1/8W	
R971	1-246-793-00	CARBON	6.8K	1/8W	

VARIABLE RESISTOR

Ref.No.	Part No.	Description
RV501	1-224-255-XX	RES, ADJ, SOLID 100K
RV502	1-224-254-XX	RES, ADJ, SOLID 47K
RV503	1-224-249-XX	RES, ADJ, SOLID 1K
RV504	1-224-249-XX	RES, ADJ, SOLID 1K
RV505	1-224-254-XX	RES, ADJ, SOLID 47K
RV506	1-224-251-XX	RES, ADJ, SOLID 4.7K
RV507	1-224-251-XX	RES, ADJ, SOLID 4.7K
RV508	1-224-256-XX	RES, ADJ, SOLID 220K
RV509	1-224-256-XX	RES, ADJ, SOLID 220K
RV510	1-224-255-XX	RES, ADJ, SOLID 100K
RV511	1-224-255-XX	RES, ADJ, SOLID 100K
RV512	1-224-255-XX	RES, ADJ, SOLID 100K

RELAY

Ref.No.	Part No.	Description
RY501	1-515-418-00	RELAY
RY502	1-515-418-00	RELAY
RY503	1-515-416-00	RELAY
RY504	1-515-416-00	RELAY

TRANSFORMER

Ref.No.	Part No.	Description
T501	1-433-237-00	TRANSFORMER, OSCILLATOR
T503	1-409-354-00	COIL, TRAP
T505	1-235-059-00	COIL, (L.P.F)
T506	1-235-059-00	COIL, (L.P.F)

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♠:A-6715-153-A SS-11 BOARD, COMPLETE
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1-533-162-00 HOLDER, FUSE
♠:3-655-214-00 CLIP, CABLE
♠:3-671-839-00 CASE (MAIN), SHIELD, SS-10

CAPACITOR

Ref.No.	Part No.	Description				Remark
C001	1-123-820-00	ELECT	33MF	20%	16V	
C002	1-161-019-00	CERAMIC	0.033MF	10%	25V	
C003	1-123-617-00	ELECT	10MF	20%	16V	
C004	1-123-617-00	ELECT	10MF	20%	16V	
C005	1-161-039-00	CERAMIC	0.001MF	10%	25V	
C006	1-123-333-00	ELECT	100MF	20%	16V	
C007	1-123-820-00	ELECT	33MF	20%	16V	
C008	1-161-019-00	CERAMIC	0.033MF	10%	25V	
C009	1-130-482-00	MYLAR	0.0082MF	5%	50V	
C010	1-130-482-00	MYLAR	0.0082MF	5%	50V	
C011	1-123-612-00	ELECT	2.2MF	20%	50V	
C012	1-123-612-00	ELECT	2.2MF	20%	50V	
C013	1-123-611-00	ELECT	1MF	20%	50V	
C014	1-123-611-00	ELECT	1MF	20%	50V	
C015	1-123-611-00	ELECT	1MF	20%	50V	
C016	1-123-611-00	ELECT	1MF	20%	50V	
C017	1-123-617-00	ELECT	10MF	20%	16V	
C018	1-123-820-00	ELECT	33MF	20%	16V	
C019	1-161-019-00	CERAMIC	0.033MF	10%	25V	
C020	1-123-820-00	ELECT	33MF	20%	16V	
C021	1-161-019-00	CERAMIC	0.033MF	10%	25V	
C022	1-123-611-00	ELECT	1MF	20%	50V	
C023	1-123-611-00	ELECT	1MF	20%	50V	
C024	1-161-009-00	CERAMIC	0.0047MF	10%	25V	
C026	1-161-039-00	CERAMIC	0.001MF	10%	25V	
C028	1-123-611-00	ELECT	1MF	20%	50V	
C029	1-123-613-00	ELECT	3.3MF	20%	50V	
C030	1-123-820-00	ELECT	33MF	20%	16V	
C031	1-161-019-00	CERAMIC	0.033MF	10%	25V	
C032	1-161-019-00	CERAMIC	0.033MF	10%	25V	
C033	1-123-820-00	ELECT	33MF	20%	16V	
C034	1-161-019-00	CERAMIC	0.033MF	10%	25V	
C035	1-161-021-00	CERAMIC	0.047MF	10%	25V	
C036	1-161-021-00	CERAMIC	0.047MF	10%	25V	
C037	1-161-005-00	CERAMIC	0.0022MF	10%	25V	
C038	1-123-616-00	ELECT	4.7MF	20%	25V	
C039	1-161-019-00	CERAMIC	0.033MF	10%	25V	
C040	1-161-019-00	CERAMIC	0.033MF	10%	25V	
C041	1-123-611-00	ELECT	1MF	20%	50V	
C044	1-161-005-00	CERAMIC	0.0022MF	10%	25V	
C045	1-161-005-00	CERAMIC	0.0022MF	10%	25V	
C301	1-161-021-00	CERAMIC	0.047MF	10%	25V	
C302	1-130-491-00	MYLAR	0.047MF	5%	50V	
C303	1-130-491-00	MYLAR	0.047MF	5%	50V	
C304	1-123-613-00	ELECT	3.3MF	20%	50V	
C305	1-123-613-00	ELECT	3.3MF	20%	50V	
C306	1-123-613-00	ELECT	3.3MF	20%	50V	
C307	1-130-483-00	MYLAR	0.01MF	5%	50V	
C308	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C309	1-130-483-00	MYLAR	0.01MF	5%	50V	
C310	1-123-298-00	ELECT	470MF	20%	6.3V	
C311	1-161-021-00	CERAMIC	0.047MF	10%	25V	
C312	1-161-017-00	CERAMIC	0.022MF	10%	25V	
C317	1-123-611-00	ELECT	1MF	20%	50V	
C318	1-123-618-00	ELECT	22MF	20%	6.3V	
C319	1-123-333-00	ELECT	100MF	20%	16V	
C321	1-123-820-00	ELECT	33MF	20%	16V	
C322	1-123-820-00	ELECT	33MF	20%	16V	
C323	1-161-021-00	CERAMIC	0.047MF	10%	25V	

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
C324	1-123-616-00	ELECT	4.7MF	20%	25V
C325	1-130-483-00	MYLAR	0.01MF	5%	50V
C326	1-123-822-00	ELECT	47MF	20%	10V
C327	1-123-612-00	ELECT	2.2MF	20%	50V
C328	1-131-345-00	ELECT(SOLID)	0.47MF	10%	25V
C329	1-161-019-00	CERAMIC	0.033MF	10%	25V
C330	1-123-617-00	ELECT	10MF	20%	16V
C331	1-161-017-00	CERAMIC	0.022MF	10%	25V
C332	1-161-016-00	CERAMIC	0.018MF	10%	25V
C333	1-161-002-00	CERAMIC	0.0012MF	10%	25V
C334	1-161-013-00	CERAMIC	0.01MF	10%	25V
C335	1-130-494-00	MYLAR	0.082MF	5%	50V
C336	1-123-613-00	ELECT	3.3MF	20%	50V
C337	1-102-978-00	CERAMIC	220PF	5%	50V
C338	1-123-297-00	ELECT	330MF	20%	6.3V
C339	1-131-375-00	TANTALUM	4.7MF	20%	10V
C340	1-131-375-00	TANTALUM	4.7MF	20%	10V
C341	1-130-489-00	MYLAR	0.033MF	5%	50V
C342	1-123-622-00	ELECT	22MF	20%	16V
C343	1-123-647-00	ELECT	47MF	20%	6.3V
C344	1-123-661-00	ELECT	100MF	20%	6.3V
C345	1-161-017-00	CERAMIC	0.022MF	10%	25V
C346	1-161-013-00	CERAMIC	0.01MF	10%	25V
C347	1-161-016-00	CERAMIC	0.018MF	10%	25V
C348	1-131-368-00	TANTALUM	3.3MF	20%	16V
C349	1-131-347-00	TANTALUM	1MF	20%	35V
C350	1-123-647-00	ELECT	47MF	20%	6.3V
C351	1-123-612-00	ELECT	2.2MF	20%	50V
C352	1-123-821-00	ELECT	47MF	20%	16V
C353	1-161-013-00	CERAMIC	0.01MF	10%	25V
C354	1-102-114-00	CERAMIC	470PF	10%	50V
C355	1-161-013-00	CERAMIC	0.01MF	10%	25V
C356	1-123-611-00	ELECT	1MF	20%	50V
C357	1-123-616-00	ELECT	4.7MF	20%	25V
C361	1-123-616-00	ELECT	4.7MF	20%	25V
C362	1-123-612-00	ELECT	2.2MF	20%	50V
C370	1-161-021-00	CERAMIC	0.047MF	10%	25V
C371	1-161-021-00	CERAMIC	0.047MF	10%	25V
C373	1-123-616-00	ELECT	4.7MF	20%	25V
C374	1-161-021-00	CERAMIC	0.047MF	10%	25V
C401	1-130-499-00	MYLAR	0.22MF	5%	50V
C402	1-123-616-00	ELECT	4.7MF	20%	25V
C403	1-130-477-00	MYLAR	0.0033MF	5%	50V
C404	1-130-483-00	MYLAR	0.01MF	5%	50V
C405	1-123-298-00	ELECT	470MF	20%	6.3V
C601	1-161-021-00	CERAMIC	0.047MF	10%	25V
C602	1-161-021-00	CERAMIC	0.047MF	10%	25V
C603	1-161-021-00	CERAMIC	0.047MF	10%	25V
C604	1-101-880-00	CERAMIC	47PF	5%	50V
C605	1-101-880-00	CERAMIC	47PF	5%	50V
C606	1-161-021-00	CERAMIC	0.047MF	10%	25V
C607	1-123-611-00	ELECT	1MF	20%	50V
C608	1-123-820-00	ELECT	33MF	20%	16V

Ref.No.	Part No.	Description			Remark
C609	1-123-566-00	ELECT	2200MF	20%	16V
C610	1-161-021-00	CERAMIC	0.047MF	10%	25V
C611	1-161-021-00	CERAMIC	0.047MF	10%	25V
C612	1-161-021-00	CERAMIC	0.047MF	10%	25V
C613	1-123-613-00	ELECT	3.3MF	20%	50V
C614	1-161-021-00	CERAMIC	0.047MF	10%	25V
C615	1-161-021-00	CERAMIC	0.047MF	10%	25V
C616	1-161-021-00	CERAMIC	0.047MF	10%	25V
C617	1-123-617-00	ELECT	10MF	20%	16V
C618	1-123-822-00	ELECT	47MF	20%	10V
C619	1-123-819-00	ELECT	33MF	20%	25V
C620	1-123-819-00	ELECT	33MF	20%	25V
C621	1-161-023-00	CERAMIC	0.068MF	10%	25V
C622	1-123-610-00	ELECT	0.47MF	20%	50V
C623	1-161-021-00	CERAMIC	0.047MF	10%	25V
C624	1-102-951-00	CERAMIC	15PF	5%	50V
C625	1-161-017-00	CERAMIC	0.022MF	10%	25V

CONNECTOR

Ref.No.	Part No.	Description
CN001●:	1-560-466-00	PIN, CONNECTOR 3P
CN002●:	1-560-466-00	PIN, CONNECTOR 3P
CN003●:	1-560-469-00	PIN, CONNECTOR 6P
CN301●:	1-560-467-00	PIN, CONNECTOR 4P
CN302●:	1-560-466-00	PIN, CONNECTOR 3P
CN303●:	1-560-467-00	PIN, CONNECTOR 4P
CN304●:	1-560-456-00	PIN, CONNECTOR 2P
CN305●:	1-560-467-00	PIN, CONNECTOR 4P
CN306●:	1-560-466-00	PIN, CONNECTOR 3P
CN307●:	1-560-467-00	PIN, CONNECTOR 4P
CN308●:	1-560-472-00	PIN, CONNECTOR 12P
CN310●:	1-560-466-00	PIN, CONNECTOR 3P
CN601●:	1-560-468-00	PIN, CONNECTOR 5P
CN602●:	1-560-470-00	PIN, CONNECTOR 8P
CN604●:	1-560-466-00	PIN, CONNECTOR 3P
CN610●:	1-560-470-00	PIN, CONNECTOR 8P
CN612●:	1-560-467-00	PIN, CONNECTOR 4P
CN613●:	1-560-470-00	PIN, CONNECTOR 8P
CN614●:	1-560-468-00	PIN, CONNECTOR 5P
CN616●:	1-560-591-00	PIN, CONNECTOR 7P
CN617●:	1-560-466-00	PIN, CONNECTOR 3P
CN618●:	1-560-466-00	PIN, CONNECTOR 3P
CN619●:	1-560-466-00	PIN, CONNECTOR 3P
CN620●:	1-560-468-00	PIN, CONNECTOR 5P
CN622●:	1-560-591-00	PIN, CONNECTOR 7P
CN623●:	1-560-471-00	PIN, CONNECTOR 10P
CN624●:	1-560-467-00	PIN, CONNECTOR 4P
CN625●:	1-560-470-00	PIN, CONNECTOR 8P
CN626●:	1-560-470-00	PIN, CONNECTOR 8P
CN627●:	1-560-469-00	PIN, CONNECTOR 6P
CN628	1-561-703-00	CONNECTOR, DIN 8P
CN701●:	1-560-471-00	PIN, CONNECTOR 10P

When indicating parts by reference number, please include the board name.

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DIODE

Ref.No.	Part No.	Description	Remark
D001	8-719-911-06	DIODE 1SS106	
D002	8-719-911-06	DIODE 1SS106	
D003	8-719-911-19	DIODE 1SS119	
D008	8-719-911-19	DIODE 1SS119	
D009	8-719-982-04	DIODE ERB81-004	
D010	8-719-911-19	DIODE 1SS119	
D012	8-719-911-19	DIODE 1SS119	
D013	8-719-982-04	DIODE ERB81-004	
D014	8-719-911-19	DIODE 1SS119	
D015	8-719-911-19	DIODE 1SS119	
D301	8-719-911-06	DIODE 1SS106	
D302	8-719-911-19	DIODE 1SS119	
D303	8-719-982-04	DIODE ERB81-004	
D304	8-719-113-07	DIODE RD13E-B	
D308	8-719-911-06	DIODE 1SS106	
D309	8-719-911-19	DIODE 1SS119	
D310	8-719-911-19	DIODE 1SS119	
D311	8-719-911-19	DIODE 1SS119	
D312	8-719-911-19	DIODE 1SS119	
D313	8-719-911-19	DIODE 1SS119	
D314	8-719-911-19	DIODE 1SS119	
D315	8-719-911-19	DIODE 1SS119	
D316	8-719-911-19	DIODE 1SS119	
D317	8-719-911-19	DIODE 1SS119	
D318	8-719-911-19	DIODE 1SS119	
D319	8-719-911-19	DIODE 1SS119	
D401	8-719-911-19	DIODE 1SS119	
D402	8-719-911-19	DIODE 1SS119	
D403	8-719-911-19	DIODE 1SS119	
D602	8-719-911-06	DIODE 1SS106	
D604	8-719-200-02	DIODE 10E-2	
D605	8-719-200-02	DIODE 10E-2	
D606	8-719-200-02	DIODE 10E-2	
D607	8-719-200-02	DIODE 10E-2	
D608	8-719-200-02	DIODE 10E-2	
D611	8-719-200-02	DIODE 10E-2	
D612	8-719-200-02	DIODE 10E-2	
D613	8-719-200-02	DIODE 10E-2	
D614	8-719-200-02	DIODE 10E-2	
D617	8-719-200-02	DIODE 10E-2	
D618	8-719-200-02	DIODE 10E-2	
D619	8-719-200-02	DIODE 10E-2	
D620	8-719-200-02	DIODE 10E-2	
D621	8-719-911-19	DIODE 1SS119	
D622	8-719-100-58	DIODE RD10EB3	

FUSE

Ref.No.	Part No.	Description	Remark
F001 ⚠	1-532-610-00	FUSE, TIME LAG T100MMA	
F601 ⚠	1-532-203-00	FUSE, TIME LAG T2A	
F602 ⚠	1-532-279-00	FUSE, TIME LAG T500MMA	
F603 ⚠	1-532-237-00	FUSE, TIME LAG T3.15A	

IC

Ref.No.	Part No.	Description	Remark
IC001	8-759-103-93	IC UPC393C	
IC002	8-759-132-40	IC UPC324C	
IC003	8-759-132-40	IC UPC324C	
IC004	8-759-103-93	IC UPC393C	
IC005	8-743-980-00	IC BX-3980	
IC006	8-743-976-00	IC BX-3976	
IC301	8-751-941-00	IC CX-194B-0	
IC302	8-741-104-30	IC BX-1043	
IC303	8-743-983-00	IC BX-3983	
IC304	8-759-132-40	IC UPC324C	
IC305	8-759-904-94	IC TL494CN	
IC306	8-743-978-00	IC BX-3978	
IC307	8-759-240-30	IC TC4030BP	
IC308	8-759-240-53	IC TC4053BP	
IC309	8-741-103-90	IC BX-1039	
IC310	8-743-981-00	IC BX-3981	
IC311	8-741-103-80	IC BX-1038	
IC312	8-759-250-26	IC TC5026BP	
IC313	8-759-240-51	IC TC4051BP	
IC314	8-741-013-00	IC BX-1013	
IC601	8-759-906-55	IC MB88401-179M	
IC602	8-759-906-56	IC MB88401-180M	
IC603	8-759-906-57	IC MB88401-181M	
IC604	8-759-103-93	IC UPC393C	
IC605	8-741-104-70	IC BX-1047	
IC606	8-759-220-04	IC TC40H004P	
IC607	8-759-987-58	IC MB8758	
IC608	8-759-240-13	IC TC4013BP	
IC609	8-759-987-58	IC MB8758	
IC610	8-741-101-60	IC BX-1016	
IC611	8-759-240-49	IC TC4049BP	
IC612	8-759-240-69	IC TC4069UBP	

COIL

Ref.No.	Part No.	Description	Remark
L001	1-408-519-00	COIL, CHOKE	
L002	1-408-519-00	COIL, CHOKE	
L003	1-408-519-00	COIL, CHOKE	
L301	1-408-518-00	COIL, CHOKE	
L302	1-459-232-00	COIL, CORE	
L602	1-407-693-00	MICRO INDUCTOR 10UH	
L611	1-408-074-00	MICRO INDUCTOR 56UH	
L612	1-408-074-00	MICRO INDUCTOR 56UH	
L613	1-408-074-00	MICRO INDUCTOR 56UH	

TRANSISTOR

Ref.No.	Part No.	Description	Remark
Q001	8-729-117-54	TRANSISTOR 2SA1175	
Q002	8-729-178-54	TRANSISTOR 2SC2785	
Q003	8-729-178-54	TRANSISTOR 2SC2785	
Q004	8-729-178-54	TRANSISTOR 2SC2785	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description	Remark
Q006	8-729-178-54	TRANSISTOR 2SC2785	
Q007	8-729-178-54	TRANSISTOR 2SC2785	
Q008	8-729-117-54	TRANSISTOR 2SA1175	
Q009	8-729-178-54	TRANSISTOR 2SC2785	
Q010	8-729-178-54	TRANSISTOR 2SC2785	
Q011	8-729-178-54	TRANSISTOR 2SC2785	
Q012	8-729-178-54	TRANSISTOR 2SC2785	
Q013	8-729-178-54	TRANSISTOR 2SC2785	
Q014	8-729-178-54	TRANSISTOR 2SC2785	
Q015	8-729-178-54	TRANSISTOR 2SC2785	
Q016	8-729-117-54	TRANSISTOR 2SA1175	
Q017	8-729-113-33	TRANSISTOR 2SB733-4	
Q018	8-729-113-33	TRANSISTOR 2SB733-4	
Q019	8-729-178-54	TRANSISTOR 2SC2785	
Q020	8-729-178-54	TRANSISTOR 2SC2785	
Q021	8-729-178-54	TRANSISTOR 2SC2785	
Q022	8-729-178-54	TRANSISTOR 2SC2785	
Q023	8-729-178-54	TRANSISTOR 2SC2785	
Q024	8-729-117-54	TRANSISTOR 2SA1175	
Q025	8-729-113-33	TRANSISTOR 2SB733-4	
Q026	8-729-113-33	TRANSISTOR 2SB733-4	
Q027	8-729-178-54	TRANSISTOR 2SC2785	
Q028	8-729-178-54	TRANSISTOR 2SC2785	
Q029	8-729-178-54	TRANSISTOR 2SC2785	
Q030	8-729-117-54	TRANSISTOR 2SA1175	
Q031	8-729-117-54	TRANSISTOR 2SA1175	
Q032	8-729-117-54	TRANSISTOR 2SA1175	
Q301	8-729-178-54	TRANSISTOR 2SC2785	
Q302	8-729-177-32	TRANSISTOR 2SD773-4	
Q303 ⚠	8-729-117-54	TRANSISTOR 2SA1175	
Q304 ⚠	8-729-113-33	TRANSISTOR 2SB733-4	
Q305	8-729-178-54	TRANSISTOR 2SC2785	
Q307	8-729-178-54	TRANSISTOR 2SC2785	
Q309	8-729-117-54	TRANSISTOR 2SA1175	
Q310	8-729-117-54	TRANSISTOR 2SA1175	
Q311	8-729-178-54	TRANSISTOR 2SC2785	
Q314	8-729-178-54	TRANSISTOR 2SC2785	
Q315	8-729-178-54	TRANSISTOR 2SC2785	
Q317	8-729-178-54	TRANSISTOR 2SC2785	
Q318	8-729-117-54	TRANSISTOR 2SA1175	
Q320	8-729-117-54	TRANSISTOR 2SA1175	
Q321	8-729-117-54	TRANSISTOR 2SA1175	
Q322	8-729-117-54	TRANSISTOR 2SA1175	
Q324	8-729-178-54	TRANSISTOR 2SC2785	
Q325	8-729-178-54	TRANSISTOR 2SC2785	
Q328	8-729-178-54	TRANSISTOR 2SC2785	
Q329	8-729-178-54	TRANSISTOR 2SC2785	
Q330	8-729-117-54	TRANSISTOR 2SA1175	
Q331	8-729-117-54	TRANSISTOR 2SA1175	
Q332	8-729-178-54	TRANSISTOR 2SC2785	
Q333	8-729-117-54	TRANSISTOR 2SA1175	
Q401	8-729-178-54	TRANSISTOR 2SC2785	
Q601	8-729-177-23	TRANSISTOR 2SB772	

Ref.No.	Part No.	Description	Remark
Q602	8-729-178-54	TRANSISTOR 2SC2785	
Q603	8-729-178-54	TRANSISTOR 2SC2785	
Q604	8-729-178-54	TRANSISTOR 2SC2785	
Q605	8-729-178-54	TRANSISTOR 2SC2785	
Q606	8-729-178-54	TRANSISTOR 2SC2785	
Q607	8-729-178-54	TRANSISTOR 2SC2785	
Q608	8-729-178-54	TRANSISTOR 2SC2785	
Q609	8-729-178-54	TRANSISTOR 2SC2785	
Q610	8-729-178-54	TRANSISTOR 2SC2785	
Q611	8-729-117-54	TRANSISTOR 2SA1175	
Q612	8-729-116-42	TRANSISTOR 2SD1164	
Q613	8-729-116-42	TRANSISTOR 2SD1164	
Q614	8-729-116-42	TRANSISTOR 2SD1164	
Q615	8-729-116-42	TRANSISTOR 2SD1164	
Q616	8-729-178-54	TRANSISTOR 2SC2785	
Q617	8-729-113-33	TRANSISTOR 2SB733-4	
Q618	8-729-177-32	TRANSISTOR 2SD773-4	
Q619	8-729-113-33	TRANSISTOR 2SB733-4	
Q620	8-729-177-32	TRANSISTOR 2SD773-4	
Q621	8-729-178-54	TRANSISTOR 2SC2785	
Q622	8-729-178-54	TRANSISTOR 2SC2785	
Q623	8-729-113-33	TRANSISTOR 2SB733-4	
Q624	8-729-177-32	TRANSISTOR 2SD773-4	
Q625	8-729-113-33	TRANSISTOR 2SB733-4	
Q626	8-729-177-32	TRANSISTOR 2SD773-4	
Q627	8-729-178-54	TRANSISTOR 2SC2785	
Q628	8-729-178-54	TRANSISTOR 2SC2785	
Q629	8-729-178-54	TRANSISTOR 2SC2785	
Q630	8-729-178-54	TRANSISTOR 2SC2785	
Q631	8-729-178-54	TRANSISTOR 2SC2785	
Q632	8-729-178-54	TRANSISTOR 2SC2785	
Q634	8-729-117-54	TRANSISTOR 2SA1175	

RESISTOR

R001	1-246-789-00	CARBON	3.3K	1/8W
R002	1-246-789-00	CARBON	3.3K	1/8W
R011	1-246-803-00	CARBON	47K	1/8W
R014	1-247-055-00	CARBON	300K	1/8W
R015	1-246-809-00	CARBON	150K	1/8W
R016	1-246-807-00	CARBON	100K	1/8W
R017	1-246-803-00	CARBON	47K	1/8W
R018	1-246-799-00	CARBON	22K	1/8W
R020	1-246-799-00	CARBON	22K	1/8W
R021	1-246-803-00	CARBON	47K	1/8W
R022	1-246-794-00	CARBON	8.2K	1/8W
R023	1-246-785-00	CARBON	1.5K	1/8W
R024	1-246-790-00	CARBON	3.9K	1/8W
R025	1-246-849-00	CARBON	3K	1/8W
R026	1-246-798-00	CARBON	18K	1/8W
R027	1-246-783-00	CARBON	1K	1/8W
R028	1-246-853-00	CARBON	6.2K	1/8W
R029	1-246-792-00	CARBON	5.6K	1/8W
R030	1-246-803-00	CARBON	47K	1/8W

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

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Ref.No.	Part No.	Description				Remark
R031	1-246-791-00	CARBON	4.7K		1/8W	
R032	1-246-803-00	CARBON	47K		1/8W	
R035	1-246-803-00	CARBON	47K		1/8W	
R037	1-246-783-00	CARBON	1K		1/8W	
R038	1-246-799-00	CARBON	22K		1/8W	
R041	1-246-799-00	CARBON	22K		1/8W	
R042	1-246-799-00	CARBON	22K		1/8W	
R043	1-246-795-00	CARBON	10K		1/8W	
R044	1-246-803-00	CARBON	47K		1/8W	
R045	1-246-449-00	CARBON	100	5%	1/4W	
R046	1-246-457-00	CARBON	220	5%	1/4W	
R055	1-244-861-00	CARBON	330	5%	1/2W	
R056	1-246-783-00	CARBON	1K		1/8W	
R057 ⚠	1-217-612-00	WIREWOUND	0.1		2W	
R058	1-246-801-00	CARBON	33K		1/8W	
R059	1-246-801-00	CARBON	33K		1/8W	
R060	1-246-860-00	CARBON	24K		1/8W	
R061	1-246-800-00	CARBON	27K		1/8W	
R064	1-247-049-00	CARBON	470K		1/8W	
R068	1-246-795-00	CARBON	10K		1/8W	
R071	1-247-057-00	CARBON	430K		1/8W	
R073	1-246-795-00	CARBON	10K		1/8W	
R074	1-246-799-00	CARBON	22K		1/8W	
R075	1-246-855-00	CARBON	9.1K		1/8W	
R080	1-246-783-00	CARBON	1K		1/8W	
R081	1-246-807-00	CARBON	100K		1/8W	
R082	1-247-049-00	CARBON	470K		1/8W	
R083	1-246-791-00	CARBON	4.7K		1/8W	
R084	1-246-791-00	CARBON	4.7K		1/8W	
R085	1-246-799-00	CARBON	22K		1/8W	
R089	1-246-795-00	CARBON	10K		1/8W	
R090	1-247-049-00	CARBON	470K		1/8W	
R091	1-246-807-00	CARBON	100K		1/8W	
R093	1-246-803-00	CARBON	47K		1/8W	
R094	1-246-795-00	CARBON	10K		1/8W	
R095	1-246-449-00	CARBON	100	5%	1/4W	
R096	1-246-457-00	CARBON	220	5%	1/4W	
R103	1-244-861-00	CARBON	330	5%	1/2W	
R106	1-246-783-00	CARBON	1K		1/8W	
R108	1-246-803-00	CARBON	47K		1/8W	
R110	1-246-811-00	CARBON	220K		1/8W	
R111	1-246-803-00	CARBON	47K		1/8W	
R113	1-246-803-00	CARBON	47K		1/8W	
R114	1-246-803-00	CARBON	47K		1/8W	
R115	1-246-801-00	CARBON	33K		1/8W	
R116	1-246-847-00	CARBON	2K		1/8W	
R117	1-246-799-00	CARBON	22K		1/8W	
R118	1-246-799-00	CARBON	22K		1/8W	
R119	1-246-803-00	CARBON	47K		1/8W	
R120	1-246-803-00	CARBON	47K		1/8W	
R121	1-246-803-00	CARBON	47K		1/8W	
R122	1-246-803-00	CARBON	47K		1/8W	
R301	1-246-799-00	CARBON	22K		1/8W	
R302	1-246-801-00	CARBON	33K		1/8W	
R303	1-246-797-00	CARBON	15K		1/8W	
R304	1-246-786-00	CARBON	1.8K		1/8W	
R305	1-246-848-00	CARBON	2.4K		1/8W	
R306	1-246-782-00	CARBON	820		1/8W	
R310	1-246-795-00	CARBON	10K		1/8W	
R311	1-246-795-00	CARBON	10K		1/8W	
R312	1-246-795-00	CARBON	10K		1/8W	
R313	1-246-783-00	CARBON	1K		1/8W	
R314	1-246-803-00	CARBON	47K		1/8W	
R315	1-246-791-00	CARBON	4.7K		1/8W	
R316	1-246-805-00	CARBON	68K		1/8W	
R317	1-246-803-00	CARBON	47K		1/8W	
R318	1-246-852-00	CARBON	5.1K		1/8W	
R321	1-246-783-00	CARBON	1K		1/8W	
R322 ⚠	1-212-356-00	METAL	0.47	5%	1W	F
R323	1-246-799-00	CARBON	22K		1/8W	
R327	1-246-797-00	CARBON	15K		1/8W	
R329 ⚠	1-212-850-00	FUSIBLE	5.1	5%	1/4W	F
R330	1-246-795-00	CARBON	10K		1/8W	
R331	1-246-809-00	CARBON	150K		1/8W	
R334	1-246-801-00	CARBON	33K		1/8W	
R337	1-246-801-00	CARBON	33K		1/8W	
R338	1-246-809-00	CARBON	150K		1/8W	
R339	1-246-810-00	CARBON	180K		1/8W	
R340	1-246-788-00	CARBON	2.7K		1/8W	
R342	1-246-801-00	CARBON	33K		1/8W	
R344	1-246-801-00	CARBON	33K		1/8W	
R345	1-246-801-00	CARBON	33K		1/8W	
R346	1-246-807-00	CARBON	100K		1/8W	
R347	1-246-806-00	CARBON	82K		1/8W	
R348	1-246-801-00	CARBON	33K		1/8W	
R349	1-214-140-00	METAL	2.2K	1%	1/4W	
R349	1-214-737-41	METAL	2.2K	1%	1/4W	
R350	1-214-140-00	METAL	2.2K	1%	1/4W	
R350	1-214-737-41	METAL	2.2K	1%	1/4W	
R351	1-214-140-00	METAL	2.2K	1%	1/4W	
R351	1-214-737-41	METAL	2.2K	1%	1/4W	
R352	1-214-140-00	METAL	2.2K	1%	1/4W	
R352	1-214-737-41	METAL	2.2K	1%	1/4W	
R354	1-246-795-00	CARBON	10K		1/8W	
R355	1-246-795-00	CARBON	10K		1/8W	
R358	1-246-803-00	CARBON	47K		1/8W	
R364	1-246-805-00	CARBON	68K		1/8W	
R366	1-246-858-00	CARBON	16K		1/8W	
R369	1-246-862-00	CARBON	36K		1/8W	
R370	1-246-801-00	CARBON	33K		1/8W	
R371	1-246-795-00	CARBON	10K		1/8W	
R373	1-246-783-00	CARBON	1K		1/8W	
R374	1-246-804-00	CARBON	56K		1/8W	
R375	1-246-795-00	CARBON	10K		1/8W	
R377	1-246-795-00	CARBON	10K		1/8W	
R378	1-246-799-00	CARBON	22K		1/8W	

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Ref.No.	Part No.	Description				Remark
R381	1-246-783-00	CARBON	1K		1/8W	
R382	1-246-795-00	CARBON	10K		1/8W	
R387	1-246-795-00	CARBON	10K		1/8W	
R390	1-246-851-00	CARBON	4.3K		1/8W	
R394	1-246-801-00	CARBON	33K		1/8W	
R395	1-246-804-00	CARBON	56K		1/8W	
R396	1-246-810-00	CARBON	180K		1/8W	
R397	1-246-801-00	CARBON	33K		1/8W	
R398	1-246-801-00	CARBON	33K		1/8W	
R399	1-246-837-00	CARBON	300		1/8W	
R400	1-246-795-00	CARBON	10K		1/8W	
R401	1-246-457-00	CARBON	220	5%	1/4W	
R404	1-246-801-00	CARBON	33K		1/8W	
R407	1-246-803-00	CARBON	47K		1/8W	
R408	1-247-049-00	CARBON	470K		1/8W	
R409	1-246-807-00	CARBON	100K		1/8W	
R410	1-247-051-00	CARBON	680K		1/8W	
R411	1-246-803-00	CARBON	47K		1/8W	
R412	1-246-795-00	CARBON	10K		1/8W	
R413	1-246-792-00	CARBON	5.6K		1/8W	
R414	1-246-792-00	CARBON	5.6K		1/8W	
R416	1-246-799-00	CARBON	22K		1/8W	
R417	1-246-783-00	CARBON	1K		1/8W	
R451	1-247-047-00	CARBON	330K		1/8W	
R452	1-246-797-00	CARBON	15K		1/8W	
R453	1-247-054-00	CARBON	240K		1/8W	
R460	1-246-795-00	CARBON	10K		1/8W	
R468	1-246-791-00	CARBON	4.7K		1/8W	
R473	1-246-803-00	CARBON	47K		1/8W	
R474	1-246-792-00	CARBON	5.6K		1/8W	
R476	1-246-803-00	CARBON	47K		1/8W	
R477	1-246-803-00	CARBON	47K		1/8W	
R478	1-246-803-00	CARBON	47K		1/8W	
R479	1-246-807-00	CARBON	100K		1/8W	
R480	1-246-803-00	CARBON	47K		1/8W	
R481	1-246-803-00	CARBON	47K		1/8W	
R482	1-246-803-00	CARBON	47K		1/8W	
R483	1-246-799-00	CARBON	22K		1/8W	
R484	1-246-791-00	CARBON	4.7K		1/8W	
R485	1-246-803-00	CARBON	47K		1/8W	
R486	1-246-803-00	CARBON	47K		1/8W	
R487	1-246-795-00	CARBON	10K		1/8W	
R488	1-246-800-00	CARBON	27K		1/8W	
R489	1-246-845-00	CARBON	1.3K		1/8W	
R490	1-246-845-00	CARBON	1.3K		1/8W	
R491	1-246-845-00	CARBON	1.3K		1/8W	
R492	1-246-797-00	CARBON	15K		1/8W	
R495 ⚠.	1-206-482-00	METAL	62	5%	2W	F
R496	1-246-779-00	CARBON	470		1/8W	
R498	1-246-803-00	CARBON	47K		1/8W	
R499	1-246-791-00	CARBON	4.7K		1/8W	
R501	1-246-850-00	CARBON	3.6K		1/8W	
R502	1-246-791-00	CARBON	4.7K		1/8W	

Ref.No.	Part No.	Description				Remark
R503	1-246-759-00	CARBON	10		1/8W	
R511	1-246-783-00	CARBON	1K		1/8W	
R512	1-246-807-00	CARBON	100K		1/8W	
R513	1-246-807-00	CARBON	100K		1/8W	
R514	1-246-803-00	CARBON	47K		1/8W	
R515	1-214-164-00	METAL	22K	1%	1/4W	
R515	1-214-761-41	METAL	22K	1%	1/4W	
R516	1-246-807-00	CARBON	100K		1/8W	
R517	1-246-803-00	CARBON	47K		1/8W	
R518	1-246-803-00	CARBON	47K		1/8W	
R519	1-246-795-00	CARBON	10K		1/8W	
R520	1-246-807-00	CARBON	100K		1/8W	
R521	1-246-803-00	CARBON	47K		1/8W	
R522	1-246-795-00	CARBON	10K		1/8W	
R523	1-246-795-00	CARBON	10K		1/8W	
R524	1-246-803-00	CARBON	47K		1/8W	
R525	1-246-795-00	CARBON	10K		1/8W	
R526	1-246-795-00	CARBON	10K		1/8W	
R527	1-246-803-00	CARBON	47K		1/8W	
R529	1-246-805-00	CARBON	68K		1/8W	
R530 ⚠.	1-532-605-00	PROTECTCR, CIRCUIT				
R603	1-246-799-00	CARBON	22K		1/8W	
R605	1-246-807-00	CARBON	100K		1/8W	
R607	1-246-807-00	CARBON	100K		1/8W	
R610	1-246-791-00	CARBON	4.7K		1/8W	
R611	1-246-803-00	CARBON	47K		1/8W	
R612	1-246-791-00	CARBON	4.7K		1/8W	
R613	1-246-791-00	CARBON	4.7K		1/8W	
R614	1-246-791-00	CARBON	4.7K		1/8W	
R615	1-246-803-00	CARBON	47K		1/8W	
R616	1-246-803-00	CARBON	47K		1/8W	
R617	1-246-803-00	CARBON	47K		1/8W	
R618	1-246-803-00	CARBON	47K		1/8W	
R619	1-246-803-00	CARBON	47K		1/8W	
R620	1-247-049-00	CARBON	470K		1/8W	
R621	1-246-803-00	CARBON	47K		1/8W	
R622	1-246-803-00	CARBON	47K		1/8W	
R623	1-246-803-00	CARBON	47K		1/8W	
R624	1-246-803-00	CARBON	47K		1/8W	
R625	1-246-797-00	CARBON	15K		1/8W	
R626	1-246-795-00	CARBON	10K		1/8W	
R627	1-246-789-00	CARBON	3.3K		1/8W	
R628	1-246-783-00	CARBON	1K		1/8W	
R629	1-246-783-00	CARBON	1K		1/8W	
R630	1-246-783-00	CARBON	1K		1/8W	
R631	1-246-783-00	CARBON	1K		1/8W	
R632	1-246-791-00	CARBON	4.7K		1/8W	
R633	1-246-787-00	CARBON	2.2K		1/8W	
R634	1-246-787-00	CARBON	2.2K		1/8W	
R635	1-246-793-00	CARBON	6.8K		1/8W	
R636	1-246-791-00	CARBON	4.7K		1/8W	
R637	1-246-783-00	CARBON	1K		1/8W	
R638	1-246-783-00	CARBON	1K		1/8W	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description				Remark
R640	1-246-795-00	CARBON	10K		1/8W	
R641	1-246-859-00	CARBON	20K		1/8W	
R643	1-246-783-00	CARBON	1K		1/8W	
R644	1-246-803-00	CARBON	47K		1/8W	
R645	1-246-801-00	CARBON	33K		1/8W	
R646 ⚠	**1-247-587-00**	**CARBON**	**0.47**	**5%**	**1/4W**	
R649	1-246-807-00	CARBON	100K		1/8W	
R654	1-246-807-00	CARBON	100K		1/8W	
R659	1-246-807-00	CARBON	100K		1/8W	
R664	1-246-807-00	CARBON	100K		1/8W	
R667	1-246-795-00	CARBON	10K		1/8W	
R668	1-246-799-00	CARBON	22K		1/8W	
R670	1-246-807-00	CARBON	100K		1/8W	
R671	1-247-058-00	CARBON	510K		1/8W	
R672	1-246-858-00	CARBON	16K		1/8W	
R673	1-246-798-00	CARBON	18K		1/8W	
R674 ⚠	**1-206-640-00**	**METAL**	**100**	**5%**	**2W**	**F**
R675 ⚠	**1-206-640-00**	**METAL**	**100**	**5%**	**2W**	**F**
R676	1-246-783-00	CARBON	1K		1/8W	
R677	1-246-795-00	CARBON	10K		1/8W	
R678	1-246-783-00	CARBON	1K		1/8W	
R679	1-246-807-00	CARBON	100K		1/8W	
R680	1-246-794-00	CARBON	8.2K		1/8W	
R681	1-246-795-00	CARBON	10K		1/8W	
R682	1-246-803-00	CARBON	47K		1/8W	
R683	1-246-803-00	CARBON	47K		1/8W	
R684	1-246-803-00	CARBON	47K		1/8W	
R685	1-246-803-00	CARBON	47K		1/8W	
R686	1-246-803-00	CARBON	47K		1/8W	
R687	1-246-751-00	CARBON	2.2		1/8W	
R688	1-246-803-00	CARBON	47K		1/8W	
R690	1-246-803-00	CARBON	47K		1/8W	

VARIABLE RESISTOR

Ref.No.	Part No.	Description	Remark
RV001	1-226-774-00	RES, ADJ, METAL GLAZE 47K	
RV002	1-226-773-00	RES, ADJ, METAL GLAZE 22K	
RV301	1-226-753-00	RES, ADJ, SOLID 47K	
RV302	1-224-254-XX	RES, ADJ, METAL GLAZE 47K	
RV303	1-226-771-00	RES, ADJ, METAL GLAZE 1K	
RV304	1-226-753-00	RES, ADJ, SOLID 47K	
RV305	1-226-774-00	RES, ADJ, METAL GLAZE 47K	
RV307	1-226-703-00	RES, ADJ, METAL GLAZE 10K	
RV309	1-226-703-00	RES, ADJ, METAL GLAZE 10K	
RV310	1-226-703-00	RES, ADJ, METAL GLAZE 10K	
RV314	1-226-775-00	RES, ADJ, METAL GLAZE 100K	
RV315	1-226-701-00	RES, ADJ, METAL GLAZE 220	
RV316	1-226-701-00	RES, ADJ, METAL GLAZE 220	
RV317	1-226-713-00	RES, ADJ, SOLID 100K	
RV318	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K	
RV319	1-226-704-00	RES, ADJ, METAL GLAZE 470K	

THERMISTOR

Ref.No.	Part No.	Description	Remark
TH001	1-800-200-00	THERMISTOR S-3K	
TH301	1-800-200-00	THERMISTOR S-3K	

CRYSTAL

Ref.No.	Part No.	Description	Remark
X601	1-527-726-00	VIBRATOR, CRYSTAL	

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♠:A-6715-174-A JR-2 BOARD, COMPLETE

CAPACITOR

Ref.No.	Part No.	Description				Remark
C001	1-123-306-00	ELECT	47MF	20%	10V	
C002	1-123-328-00	ELECT	4.7MF	20%	25V	
C003	1-123-356-00	ELECT	10MF	20%	16V	
C004	1-130-475-00	MYLAR	0.0022MF	5%	50V	
C005	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C006	1-123-356-00	ELECT	10MF	20%	16V	
C007	1-130-499-00	MYLAR	0.22MF	5%	50V	
C008	1-123-356-00	ELECT	10MF	20%	16V	
C009	1-123-356-00	ELECT	10MF	20%	16V	
C010	1-161-039-00	CERAMIC	0.001MF	10%	25V	
C011	1-131-404-00	ELECT(SOLID)	0.22MF	10%	25V	
C012	1-102-126-00	CERAMIC	0.0056MF	10%	50V	
C013	1-123-328-00	ELECT	4.7MF	20%	25V	
C014	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C015	1-123-306-00	ELECT	47MF	20%	10V	
C016	1-123-305-00	ELECT	33MF	20%	10V	
C017	1-123-356-00	ELECT	10MF	20%	16V	
C018	1-123-356-00	ELECT	10MF	20%	16V	
C019	1-123-356-00	ELECT	10MF	20%	16V	
C020	1-123-356-00	ELECT	10MF	20%	16V	
C021	1-102-118-00	CERAMIC	0.0012MF	10%	50V	
C022	1-123-356-00	ELECT	10MF	20%	16V	
C023	1-123-356-00	ELECT	10MF	20%	16V	
C024	1-131-404-00	ELECT(SOLID)	0.22MF	10%	25V	
C025	1-130-026-00	FILM	0.0047MF	5%	50V	
C026	1-130-022-00	FILM	0.0022MF	5%	50V	
C027	1-123-330-00	ELECT	22MF	20%	16V	
C028	1-123-306-00	ELECT	47MF	20%	10V	
C029	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C030	1-131-342-00	ELECT(SOLID)	0.15MF	10%	25V	
C031	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C032	1-123-295-00	ELECT	100MF	20%	6.3V	
C033	1-108-562-00	MYLAR	0.002MF	5%	50V	
C034	1-108-562-00	MYLAR	0.002MF	5%	50V	
C037	1-123-306-00	ELECT	47MF	20%	10V	
C038	1-130-494-51	MYLAR	0.082MF	5%	50V	
C040	1-123-306-00	ELECT	47MF	20%	10V	
C041	1-123-382-00	ELECT	3.3MF	20%	50V	
C042	1-161-017-00	CERAMIC	0.022MF	10%	25V	
C043	1-130-475-00	MYLAR	0.0022MF	5%	50V	

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Ref.No.	Part No.	Description			Remark
C044	1-123-356-00	ELECT	10MF	20%	16V
C047	1-123-356-00	ELECT	10MF	20%	16V
C048	1-130-491-00	MYLAR	0.047MF	5%	50V
C049	1-131-407-00	ELECT(SOLID)	0.68MF	10%	25V
C050	1-131-408-00	ELECT(SOLID)	1MF	10%	25V
C051	1-123-295-00	ELECT	100MF	20%	6.3V
C052	1-161-017-00	CERAMIC	0.022MF	10%	25V
C053	1-131-341-00	ELECT(SOLID)	0.1MF	10%	25V
C054	1-131-344-00	ELECT(SOLID)	0.33MF	10%	25V
C055	1-131-344-00	ELECT(SOLID)	0.33MF	10%	25V
C203	1-102-978-00	CERAMIC	220PF	5%	50V
C204	1-102-978-00	CERAMIC	220PF	5%	50V
C205	1-123-380-00	ELECT	1MF	20%	50V
C206	1-161-013-00	CERAMIC	0.01MF	10%	25V
C207	1-161-039-00	CERAMIC	0.001MF	10%	25V
C208	1-123-332-00	ELECT	47MF	20%	16V
C209	1-161-039-00	CERAMIC	0.001MF	10%	25V
C501	1-161-021-00	CERAMIC	0.047MF	10%	25V
C502	1-123-330-00	ELECT	22MF	20%	16V
C503	1-102-978-00	CERAMIC	220PF	5%	50V
C504	1-102-978-00	CERAMIC	220PF	5%	50V
C701	1-161-021-00	CERAMIC	0.047MF	10%	25V
C702	1-123-380-00	ELECT	1MF	20%	50V
C703	1-123-380-00	ELECT	1MF	20%	50V
C704	1-123-380-00	ELECT	1MF	20%	50V
C705	1-130-493-00	MYLAR	0.068MF	5%	50V
C706	1-130-476-00	MYLAR	0.0027MF	5%	50V
C707	1-123-381-00	ELECT	2.2MF	20%	50V
C708	1-123-330-00	ELECT	22MF	20%	16V
C709	1-123-330-00	ELECT	22MF	20%	16V
C710	1-123-380-00	ELECT	1MF	20%	50V
C711	1-130-493-00	MYLAR	0.068MF	5%	50V
C712	1-130-476-00	MYLAR	0.0027MF	5%	50V
C713	1-123-381-00	ELECT	2.2MF	20%	50V
C714	1-123-330-00	ELECT	22MF	20%	16V
C715	1-123-330-00	ELECT	22MF	20%	16V
C716	1-123-295-00	ELECT	100MF	20%	6.3V
C717	1-101-004-00	CERAMIC	0.01MF		50V
C751	1-123-330-00	ELECT	22MF	20%	16V
C752	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C753	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C754	1-123-330-00	ELECT	22MF	20%	16V
C755	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C756	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C757	1-123-330-00	ELECT	22MF	20%	16V
C758	1-123-356-00	ELECT	10MF	20%	16V
C759	1-123-330-00	ELECT	22MF	20%	16V
C760	1-123-356-00	ELECT	10MF	20%	16V
C761	1-123-356-00	ELECT	10MF	20%	16V
C762	1-123-330-00	ELECT	22MF	20%	16V
C763	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C764	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C765	1-123-330-00	ELECT	22MF	20%	16V

Ref.No.	Part No.	Description			Remark
C766	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C767	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C768	1-123-330-00	ELECT	22MF	20%	16V
C769	1-123-330-00	ELECT	22MF	20%	16V
C770	1-123-356-00	ELECT	10MF	20%	16V
C771	1-123-356-00	ELECT	10MF	20%	16V
C772	1-123-356-00	ELECT	10MF	20%	16V
C773	1-123-333-00	ELECT	100MF	20%	16V
C774	1-101-004-00	CERAMIC	0.01MF		50V

CONNECTOR

CN001●:	1-560-470-00	PIN, CONNECTOR 8P
CN002●:	1-560-472-00	PIN, CONNECTOR 12P
CN003●:	1-560-469-00	PIN, CONNECTOR 6P
CN004●:	1-560-466-00	PIN, CONNECTOR 3P
CN201●:	1-560-468-00	PIN, CONNECTOR 5P
CN203●:	1-560-468-00	PIN, CONNECTOR 5P
CN204●:	1-560-470-00	PIN, CONNECTOR 8P
CN501●:	1-560-591-00	PIN, CONNECTOR 7P
CN502●:	1-560-471-00	PIN, CONNECTOR 10P
CN701●:	1-560-466-00	PIN, CONNECTOR 3P
CN702●:	1-560-470-00	PIN, CONNECTOR 8P
CN703●:	1-560-466-00	PIN, CONNECTOR 3P

DIODE

D001	8-719-911-19	DIODE 1SS119
D002	8-719-911-19	DIODE 1SS119
D003	8-719-911-19	DIODE 1SS119
D004	8-719-911-19	DIODE 1SS119
D005	8-719-911-19	DIODE 1SS119
D006	8-719-911-19	DIODE 1SS119
D007	8-719-911-19	DIODE 1SS119
D008	8-719-911-19	DIODE 1SS119
D009	8-719-911-19	DIODE 1SS119
D010	8-719-911-19	DIODE 1SS119
D011	8-719-911-19	DIODE 1SS119
D012	8-719-911-19	DIODE 1SS119
D013	8-719-911-19	DIODE 1SS119
D014	8-719-911-19	DIODE 1SS119
D015	8-719-911-19	DIODE 1SS119
D019	8-719-911-19	DIODE 1SS119
D020	8-719-911-19	DIODE 1SS119
D021	8-719-911-19	DIODE 1SS119
D022	8-719-911-19	DIODE 1SS119
D023	8-719-911-19	DIODE 1SS119
D201	8-719-102-90	DIODE RD10EN2
D202	8-719-182-07	DIODE RD8.2E-B
D203	8-719-110-07	DIODE RD10E-B
D204	8-719-911-19	DIODE 1SS119
D501	8-719-130-07	DIODE RD3.0E-B
D502	8-719-200-02	DIODE 10E-2
D701	8-719-911-19	DIODE 1SS119
D702	8-719-911-19	DIODE 1SS119

When indicating parts by reference number, please include the board name.

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Ref.No.	Part No.	Description	Remark
D703	8-719-911-19	DIODE 1SS119	
D704	8-719-911-19	DIODE 1SS119	
D705	8-719-911-19	DIODE 1SS119	
D706	8-719-911-19	DIODE 1SS119	

IC

Ref.No.	Part No.	Description	Remark
IC001	8-759-132-40	IC UPC324C	
IC002	8-759-132-40	IC UPC324C	
IC003	8-759-132-40	IC UPC324C	
IC004	8-759-240-30	IC TC4030BP	
IC005	8-759-979-27	IC CX-7927	
IC006	8-759-240-66	IC TC4066BP	
IC007	8-759-240-13	IC TC4013BP	
IC008	8-759-240-81	IC TC4081BP	
IC009	8-759-045-38	IC MC14538BCP	
IC010	8-759-240-11	IC TC4011BP	
IC011	8-759-240-11	IC TC4011BP	
IC012	8-759-240-81	IC TC4081BP	
IC013	8-759-240-11	IC TC4011BP	
IC201	8-759-300-27	IC HD38757A-05	
IC501	8-759-100-80	IC UPD652C-040	
IC701	8-759-340-70	IC HD14070BP	
IC702	8-759-345-38	IC HD14538BP	
IC703	8-759-140-13	IC UPD4013BC	
IC704	8-759-145-58	IC UPC4558C	
IC705	8-759-145-58	IC UPC4558C	
IC706	8-759-145-58	IC UPC4558C	
IC707	8-759-103-93	IC UPC393C	

TRANSISTOR

Ref.No.	Part No.	Description	Remark
Q001	8-729-117-54	TRANSISTOR 2SA1175	
Q003	8-729-178-54	TRANSISTOR 2SC2785	
Q004	8-729-178-54	TRANSISTOR 2SC2785	
Q006	8-729-178-54	TRANSISTOR 2SC2785	
Q007	8-729-117-54	TRANSISTOR 2SA1175	
Q008	8-729-178-54	TRANSISTOR 2SC2785	
Q009	8-729-178-54	TRANSISTOR 2SC2785	
Q010	8-729-117-54	TRANSISTOR 2SA1175	
Q016	8-729-178-54	TRANSISTOR 2SC2785	
Q017	8-729-178-54	TRANSISTOR 2SC2785	
Q018	8-729-178-54	TRANSISTOR 2SC2785	
Q021	8-729-178-54	TRANSISTOR 2SC2785	
Q022	8-729-117-54	TRANSISTOR 2SA1175	
Q024	8-729-178-54	TRANSISTOR 2SC2785	
Q025	8-729-178-54	TRANSISTOR 2SC2785	
Q030	8-729-178-54	TRANSISTOR 2SC2785	
Q031	8-729-117-54	TRANSISTOR 2SA1175	
Q032	8-729-178-54	TRANSISTOR 2SC2785	
Q035	8-729-117-54	TRANSISTOR 2SA1175	
Q036	8-729-117-54	TRANSISTOR 2SA1175	
Q201	8-729-117-54	TRANSISTOR 2SA1175	
Q202	8-729-178-54	TRANSISTOR 2SC2785	
Q205	8-729-178-54	TRANSISTOR 2SC2785	
Q206	8-729-178-54	TRANSISTOR 2SC2785	
Q501	8-729-178-54	TRANSISTOR 2SC2785	
Q502	8-729-178-54	TRANSISTOR 2SC2785	
Q503	8-729-178-54	TRANSISTOR 2SC2785	
Q504	8-729-178-54	TRANSISTOR 2SC2785	
Q505	8-729-178-54	TRANSISTOR 2SC2785	
Q506	8-729-178-54	TRANSISTOR 2SC2785	
Q507	8-729-178-54	TRANSISTOR 2SC2785	
Q701	8-729-178-54	TRANSISTOR 2SC2785	
Q702	8-729-178-54	TRANSISTOR 2SC2785	
Q703	8-729-178-54	TRANSISTOR 2SC2785	
Q704	8-729-178-54	TRANSISTOR 2SC2785	
Q705	8-729-178-54	TRANSISTOR 2SC2785	
Q706	8-729-178-54	TRANSISTOR 2SC2785	

RESISTOR

Ref.No.	Part No.	Description				Remark
R001	1-246-803-00	CARBON	47K		1/8W	
R002	1-246-803-00	CARBON	47K		1/8W	
R003	1-215-443-00	METAL	8.2K	1%	1/6W	
R004	1-215-445-00	METAL	10K	1%	1/6W	
R005	1-246-791-00	CARBON	4.7K		1/8W	
R006	1-247-053-00	CARBON	1M		1/8W	
R007	1-246-791-00	CARBON	4.7K		1/8W	
R008	1-247-053-00	CARBON	1M		1/8W	
R009	1-246-791-00	CARBON	4.7K		1/8W	
R010	1-247-053-00	CARBON	1M		1/8W	
R011	1-246-791-00	CARBON	4.7K		1/8W	
R012	1-247-053-00	CARBON	1M		1/8W	
R013	1-246-792-00	CARBON	5.6K		1/8W	
R014	1-246-799-00	CARBON	22K		1/8W	
R015	1-246-803-00	CARBON	47K		1/8W	
R017	1-246-852-00	CARBON	5.1K		1/8W	
R020	1-246-846-00	CARBON	1.6K		1/8W	
R021	1-246-851-00	CARBON	4.3K		1/8W	
R022	1-246-807-00	CARBON	100K		1/8W	
R023	1-246-864-00	CARBON	51K		1/8W	
R024	1-246-807-00	CARBON	100K		1/8W	
R025	1-246-807-00	CARBON	100K		1/8W	
R026	1-246-795-00	CARBON	10K		1/8W	
R027	1-246-807-00	CARBON	100K		1/8W	
R028	1-246-807-00	CARBON	100K		1/8W	
R029	1-246-807-00	CARBON	100K		1/8W	
R030	1-246-807-00	CARBON	100K		1/8W	
R032	1-246-781-00	CARBON	680		1/8W	
R034	1-246-795-00	CARBON	10K		1/8W	
R035	1-246-795-00	CARBON	10K		1/8W	
R036	1-246-795-00	CARBON	10K		1/8W	
R039	1-215-445-00	METAL	10K	1%	1/6W	
R040	1-215-460-31	METAL	43K	1%	1/6W	
R041	1-246-803-00	CARBON	47K		1/8W	
R042	1-215-418-31	METAL	750	1%	1/6W	
R043	1-247-053-00	CARBON	1M		1/8W	
R044	1-247-053-00	CARBON	1M		1/8W	

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description				Remark
R045	1-246-765-00	CARBON	33		1/8W	
R047	1-246-807-00	CARBON	100K		1/8W	
R048	1-246-844-00	CARBON	1.1K		1/8W	
R049	1-246-846-00	CARBON	1.6K		1/8W	
R050	1-246-846-00	CARBON	1.6K		1/8W	
R051	1-246-791-00	CARBON	4.7K		1/8W	
R052	1-246-791-00	CARBON	4.7K		1/8W	
R053	1-246-801-00	CARBON	33K		1/8W	
R054	1-247-053-00	CARBON	1M		1/8W	
R055	1-247-053-00	CARBON	1M		1/8W	
R058	1-246-792-00	CARBON	5.6K		1/8W	
R060	1-246-803-00	CARBON	47K		1/8W	
R061	1-246-800-00	CARBON	27K		1/8W	
R062	1-246-803-00	CARBON	47K		1/8W	
R063	1-246-783-00	CARBON	1K		1/8W	
R064	1-246-783-00	CARBON	1K		1/8W	
R065	1-246-783-00	CARBON	1K		1/8W	
R066	1-246-804-00	CARBON	56K		1/8W	
R067	1-246-804-00	CARBON	56K		1/8W	
R068	1-246-807-00	CARBON	100K		1/8W	
R069	1-246-803-00	CARBON	47K		1/8W	
R070	1-246-850-00	CARBON	3.6K		1/8W	
R071	1-246-805-00	CARBON	68K		1/8W	
R072	1-246-804-00	CARBON	56K		1/8W	
R073	1-246-804-00	CARBON	56K		1/8W	
R074	1-246-803-00	CARBON	47K		1/8W	
R075	1-246-795-00	CARBON	10K		1/8W	
R076	1-246-795-00	CARBON	10K		1/8W	
R079	1-246-787-00	CARBON	2.2K		1/8W	
R080	1-246-803-00	CARBON	47K		1/8W	
R081	1-246-803-00	CARBON	47K		1/8W	
R082	1-246-803-00	CARBON	47K		1/8W	
R083	1-246-803-00	CARBON	47K		1/8W	
R087	1-215-473-31	METAL	150K	1%	1/6W	
R088	1-246-775-00	CARBON	220		1/8W	
R089	1-246-805-00	CARBON	68K		1/8W	
R090	1-246-803-00	CARBON	47K		1/8W	
R091	1-246-803-00	CARBON	47K		1/8W	
R092	1-247-053-00	CARBON	1M		1/8W	
R093	1-246-777-00	CARBON	330		1/8W	
R094	1-246-803-00	CARBON	47K		1/8W	
R095	1-246-803-00	CARBON	47K		1/8W	
R098	1-246-803-00	CARBON	47K		1/8W	
R099	1-246-775-00	CARBON	220		1/8W	
R101	1-246-795-00	CARBON	10K		1/8W	
R102	1-246-783-00	CARBON	1K		1/8W	
R103	1-246-795-00	CARBON	10K		1/8W	
R105	1-246-783-00	CARBON	1K		1/8W	
R106	1-246-864-00	CARBON	51K		1/8W	
R107	1-246-858-00	CARBON	16K		1/8W	
R108	1-246-794-00	CARBON	8.2K		1/8W	
R109	1-246-783-00	CARBON	1K		1/8W	
R110	1-246-807-00	CARBON	100K		1/8W	
R111	1-246-799-00	CARBON	22K		1/8W	
R117	1-246-867-00	CARBON	91K		1/8W	
R118	1-246-801-00	CARBON	33K		1/8W	
R119	1-246-791-00	CARBON	4.7K		1/8W	
R120	1-246-811-00	CARBON	220K		1/8W	
R121	1-246-803-00	CARBON	47K		1/8W	
R122	1-246-803-00	CARBON	47K		1/8W	
R123	1-246-802-00	CARBON	39K		1/8W	
R124	1-246-795-00	CARBON	10K		1/8W	
R125	1-246-857-00	CARBON	13K		1/8W	
R126	1-246-801-00	CARBON	33K		1/8W	
R127	1-246-803-00	CARBON	47K		1/8W	
R128	1-246-783-00	CARBON	1K		1/8W	
R129	1-246-861-00	CARBON	30K		1/8W	
R130	1-246-857-00	CARBON	13K		1/8W	
R131	1-215-445-00	METAL	10K	1%	1/6W	
R132	1-246-803-00	CARBON	47K		1/8W	
R133	1-246-791-00	CARBON	4.7K		1/8W	
R134	1-246-795-00	CARBON	10K		1/8W	
R135	1-246-803-00	CARBON	47K		1/8W	
R136	1-246-803-00	CARBON	47K		1/8W	
R137	1-246-778-00	CARBON	390		1/8W	
R138	1-246-803-00	CARBON	47K		1/8W	
R139	1-246-791-00	CARBON	4.7K		1/8W	
R140	1-246-803-00	CARBON	47K		1/8W	
R141	1-246-803-00	CARBON	47K		1/8W	
R142	1-246-807-00	CARBON	100K		1/8W	
R143	1-246-803-00	CARBON	47K		1/8W	
R144	1-246-803-00	CARBON	47K		1/8W	
R145	1-246-795-00	CARBON	10K		1/8W	
R148	1-246-858-00	CARBON	16K		1/8W	
R153	1-246-807-00	CARBON	100K		1/8W	
R154	1-246-783-00	CARBON	1K		1/8W	
R155	1-246-795-00	CARBON	10K		1/8W	
R156	1-246-801-00	CARBON	33K		1/8W	
R158	1-246-783-00	CARBON	1K		1/8W	
R160	1-246-802-00	CARBON	39K		1/8W	
R161	1-246-790-00	CARBON	3.9K		1/8W	
R162	1-246-791-00	CARBON	4.7K		1/8W	
R164	1-246-791-00	CARBON	4.7K		1/8W	
R165	1-246-807-00	CARBON	100K		1/8W	
R166	1-246-807-00	CARBON	100K		1/8W	
R167	1-246-848-00	CARBON	2.4K		1/8W	
R168	1-246-783-00	CARBON	1K		1/8W	
R169	1-246-807-00	CARBON	100K		1/8W	
R170	1-246-807-00	CARBON	100K		1/8W	
R171	1-246-807-00	CARBON	100K		1/8W	
R172	1-246-807-00	CARBON	100K		1/8W	
R173	1-246-795-00	CARBON	10K		1/8W	
R174	1-247-053-00	CARBON	1M		1/8W	
R175	1-246-803-00	CARBON	47K		1/8W	
R176	1-246-791-00	CARBON	4.7K		1/8W	
R177	1-246-791-00	CARBON	4.7K		1/8W	

When indicating parts by reference number, please include the board name.

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Ref.No.	Part No.	Description				Remark
R178	1-246-801-00	CARBON	33K		1/8W	
R179	1-246-800-00	CARBON	27K		1/8W	
R180	1-247-049-00	CARBON	470K		1/8W	
R181	1-246-805-00	CARBON	68K		1/8W	
R182	1-246-804-00	CARBON	56K		1/8W	
R202	1-246-799-00	CARBON	22K		1/8W	
R203	1-246-789-00	CARBON	3.3K		1/8W	
R204	1-246-795-00	CARBON	10K		1/8W	
R205	1-246-799-00	CARBON	22K		1/8W	
R214	1-246-795-00	CARBON	10K		1/8W	
R215	1-246-799-00	CARBON	22K		1/8W	
R216	1-246-795-00	CARBON	10K		1/8W	
R217	1-246-795-00	CARBON	10K		1/8W	
R218	1-246-795-00	CARBON	10K		1/8W	
R219	1-247-053-00	CARBON	1M		1/8W	
R220	1-246-803-00	CARBON	47K		1/8W	
R221	1-246-799-00	CARBON	22K		1/8W	
R222	1-246-803-00	CARBON	47K		1/8W	
R223	1-246-803-00	CARBON	47K		1/8W	
R224	1-246-795-00	CARBON	10K		1/8W	
R225	1-246-803-00	CARBON	47K		1/8W	
R226	1-246-799-00	CARBON	22K		1/8W	
R227	1-246-803-00	CARBON	47K		1/8W	
R228	1-246-783-00	CARBON	1K		1/8W	
R229	1-246-799-00	CARBON	22K		1/8W	
R230	1-246-803-00	CARBON	47K		1/8W	
R231	1-246-803-00	CARBON	47K		1/8W	
R232	1-246-803-00	CARBON	47K		1/8W	
R234	1-246-799-00	CARBON	22K		1/8W	
R235	1-246-799-00	CARBON	22K		1/8W	
R236	1-246-799-00	CARBON	22K		1/8W	
R237	1-246-803-00	CARBON	47K		1/8W	
R238	1-246-795-00	CARBON	10K		1/8W	
R239	1-246-803-00	CARBON	47K		1/8W	
R240	1-246-795-00	CARBON	10K		1/8W	
R241 ⚠.	1-246-443-00	CARBON	56	5%	1/4W	
R242	1-246-799-00	CARBON	22K		1/8W	
R243	1-246-799-00	CARBON	22K		1/8W	
R244	1-246-795-00	CARBON	10K		1/8W	
R245	1-246-795-00	CARBON	10K		1/8W	
R246	1-246-793-00	CARBON	6.8K		1/8W	
R501	1-246-832-00	CARBON	110		1/8W	
R502	1-246-832-00	CARBON	110		1/8W	
R503	1-246-832-00	CARBON	110		1/8W	
R504	1-246-832-00	CARBON	110		1/8W	
R505	1-246-832-00	CARBON	110		1/8W	
R506	1-246-832-00	CARBON	110		1/8W	
R507	1-246-793-00	CARBON	6.8K		1/8W	
R508	1-246-795-00	CARBON	10K		1/8W	
R509	1-246-799-00	CARBON	22K		1/8W	
R510	1-247-053-00	CARBON	1M		1/8W	
R511	1-246-799-00	CARBON	22K		1/8W	
R512	1-246-799-00	CARBON	22K		1/8W	
R513	1-246-799-00	CARBON	22K		1/8W	
R514	1-246-799-00	CARBON	22K		1/8W	
R515	1-246-799-00	CARBON	22K		1/8W	
R516	1-246-799-00	CARBON	22K		1/8W	
R517	1-246-799-00	CARBON	22K		1/8W	
R518	1-246-799-00	CARBON	22K		1/8W	
R519	1-246-799-00	CARBON	22K		1/8W	
R520	1-246-799-00	CARBON	22K		1/8W	
R521	1-246-799-00	CARBON	22K		1/8W	
R522 ⚠.	1-212-849-00	FUSIBLE	4.7	5%	1/4W	F
R523	1-246-783-00	CARBON	1K		1/8W	
R701	1-246-807-00	CARBON	100K		1/8W	
R702	1-246-807-00	CARBON	100K		1/8W	
R703	1-246-864-00	CARBON	51K		1/8W	
R704	1-246-861-00	CARBON	30K		1/8W	
R706	1-246-807-00	CARBON	100K		1/8W	
R707	1-246-807-00	CARBON	100K		1/8W	
R708	1-246-809-00	CARBON	150K		1/8W	
R709	1-246-809-00	CARBON	150K		1/8W	
R710	1-246-870-00	CARBON	160K		1/8W	
R711	1-246-787-00	CARBON	2.2K		1/8W	
R712	1-246-791-00	CARBON	4.7K		1/8W	
R713	1-246-803-00	CARBON	47K		1/8W	
R714	1-246-803-00	CARBON	47K		1/8W	
R715	1-246-807-00	CARBON	100K		1/8W	
R717	1-246-807-00	CARBON	100K		1/8W	
R718	1-246-807-00	CARBON	100K		1/8W	
R719	1-246-809-00	CARBON	150K		1/8W	
R720	1-246-809-00	CARBON	150K		1/8W	
R721	1-246-870-00	CARBON	160K		1/8W	
R722	1-246-787-00	CARBON	2.2K		1/8W	
R723	1-246-791-00	CARBON	4.7K		1/8W	
R724	1-246-803-00	CARBON	47K		1/8W	
R725	1-246-803-00	CARBON	47K		1/8W	
R726	1-246-783-00	CARBON	1K		1/8W	
R751	1-215-449-31	METAL	15K	1%	1/6W	
R752	1-215-421-00	METAL	1K	1%	1/6W	
R753	1-215-487-31	METAL	560K	1%	1/6W	
R754	1-215-433-31	METAL	3.3K	1%	1/6W	
R755	1-215-428-31	METAL	2K	1%	1/6W	
R756	1-215-487-31	METAL	560K	1%	1/6W	
R757	1-246-801-00	CARBON	33K		1/8W	
R758	1-246-807-00	CARBON	100K		1/8W	
R759	1-246-807-00	CARBON	100K		1/8W	
R760	1-246-787-00	CARBON	2.2K		1/8W	
R761	1-246-799-00	CARBON	22K		1/8W	
R762	1-246-787-00	CARBON	2.2K		1/8W	
R763	1-246-811-00	CARBON	220K		1/8W	
R764	1-246-807-00	CARBON	100K		1/8W	
R766	1-246-801-00	CARBON	33K		1/8W	
R767	1-215-447-00	METAL	12K	1%	1/6W	
R768	1-215-485-31	METAL	470K	1%	1/6W	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description				Remark
R769	1-215-413-00	METAL	470	1%	1/6W	
R770	1-215-441-00	METAL	6.8K	1%	1/6W	
R771	1-215-421-00	METAL	1K	1%	1/6W	
R772	1-215-485-31	METAL	470K	1%	1/6W	
R773	1-246-801-00	CARBON	33K		1/8W	
R774	1-246-787-00	CARBON	2.2K		1/8W	
R775	1-246-799-00	CARBON	22K		1/8W	
R776	1-246-787-00	CARBON	2.2K		1/8W	
R778	1-246-811-00	CARBON	220K		1/8W	
R779	1-246-807-00	CARBON	100K		1/8W	
R781	1-246-801-00	CARBON	33K		1/8W	
R782	1-246-809-00	CARBON	150K		1/8W	

VARIABLE RESISTOR

RV001	1-226-773-00	RES, ADJ, METAL GLAZE 22K
RV002	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K
RV003	1-226-772-00	RES, ADJ, METAL GLAZE 4.7K
RV004	1-226-773-00	RES, ADJ, METAL GLAZE 22K
RV006	1-226-776-00	RES, ADJ, METAL GLAZE 220K
RV009	1-226-776-00	RES, ADJ, METAL GLAZE 220K
RV010	1-226-774-00	RES, ADJ, METAL GLAZE 47K
RV011	1-226-773-00	RES, ADJ, METAL GLAZE 22K
RV013	1-226-776-00	RES, ADJ, METAL GLAZE 220K
RV016	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K
RV017	1-226-775-00	RES, ADJ, METAL GLAZE 100K
RV701	1-226-771-00	RES, ADJ, METAL GLAZE 1K
RV702	1-226-775-00	RES, ADJ, METAL GLAZE 100K
RV703	1-226-771-00	RES, ADJ, METAL GLAZE 1K
RV704	1-226-775-00	RES, ADJ, METAL GLAZE 100K
RV705	1-226-774-00	RES, ADJ, METAL GLAZE 47K
RV706	1-226-774-00	RES, ADJ, METAL GLAZE 47K

CRYSTAL

X201	1-527-532-00	OSCILLATOR, CERAMIC
X501	1-527-532-00	OSCILLATOR, CERAMIC

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♠:1-607-771-12	FU-5 BOARD **********
♠:3-674-313-00	COVER, LED
♠:3-674-372-00	HOLDER (A), LED
♠:3-674-390-00	HOLDER (B), LED
♠:3-675-566-00	HOLDER, LED, 6 GANG

CAPACITOR

C001	1-123-617-00	ELECT	10MF	20%	16V
C002	1-161-013-00	CERAMIC	0.01MF	10%	25V

DIODE

Ref.No.	Part No.	Description	Remark
D001	8-719-812-30	DIODE TL0123	
D002	8-719-812-32	DIODE TLY123	
D003	8-719-812-32	DIODE TLY123	
D004	8-719-812-31	DIODE TLR123	
D005	8-719-812-31	DIODE TLR123	
D006	8-719-812-33	DIODE TLG123A	
D007	8-719-812-33	DIODE TLG123A	
D008	8-719-812-33	DIODE TLG123A	
D009	8-719-812-33	DIODE TLG123A	
D010	8-719-812-33	DIODE TLG123A	
D011	8-719-812-33	DIODE TLG123A	
D012	8-719-812-33	DIODE TLG123A	
D013	8-719-812-31	DIODE TLR123	
D014	8-719-812-33	DIODE TLG123A	
D015	8-719-812-33	DIODE TLG123A	
D016	8-719-812-32	DIODE TLY123	
D017	8-719-903-38	DIODE PG5531KY-3	
D018	8-719-903-38	DIODE PG5531KY-3	
D019	8-719-903-38	DIODE PG5531KY-3	
D020	8-719-903-38	DIODE PG5531KY-3	
D021	8-719-903-38	DIODE PG5531KY-3	
D022	8-719-903-38	DIODE PG5531KY-3	
D023	8-719-812-33	DIODE TLG123A	
D024	=>8-719-901-33	DIODE 1SS133	
D025	=>8-719-901-33	DIODE 1SS133	
D026	=>8-719-901-33	DIODE 1SS133	
D027	=>8-719-901-33	DIODE 1SS133	
D028	8-719-812-31	DIODE TLR123	

IC

IC001	8-759-987-47	IC MB8747

TRANSISTOR

Q001	8-729-902-11	TRANSISTOR 2SC2021
Q002	8-729-902-11	TRANSISTOR 2SC2021
Q003	8-729-902-11	TRANSISTOR 2SC2021
Q004	8-729-902-11	TRANSISTOR 2SC2021
Q005	8-729-902-11	TRANSISTOR 2SC2021
Q006	8-729-902-11	TRANSISTOR 2SC2021
Q007	8-729-902-11	TRANSISTOR 2SC2021
Q008	8-729-902-11	TRANSISTOR 2SC2021
Q009	8-729-902-11	TRANSISTOR 2SC2021
Q010	8-729-902-11	TRANSISTOR 2SC2021
Q011	8-729-902-11	TRANSISTOR 2SC2021

RESISTOR

R001	1-246-795-00	CARBON	10K	1/8W
R002	1-246-795-00	CARBON	10K	1/8W
R003	1-246-795-00	CARBON	10K	1/8W
R004	1-246-776-00	CARBON	270	1/8W
R005	1-246-776-00	CARBON	270	1/8W
R006	1-246-776-00	CARBON	270	1/8W
R007	1-246-776-00	CARBON	270	1/8W
R008	1-246-773-00	CARBON	150	1/8W

When indicating parts by reference number, please include the board name.

FU-5 TU-35

Ref.No.	Part No.	Description			Remark
R009	1-246-773-00	CARBON	150	1/8W	
R010	1-246-773-00	CARBON	150	1/8W	
R011	1-246-773-00	CARBON	150	1/8W	
R012	1-246-776-00	CARBON	270	1/8W	

SWITCH

Ref.No.	Part No.	Description
S001	1-553-997-00	SWITCH, KEY BOARD
S002	1-553-997-00	SWITCH, KEY BOARD
S003	1-553-997-00	SWITCH, KEY BOARD
S004	1-553-997-00	SWITCH, KEY BOARD
S005	1-553-997-00	SWITCH, KEY BOARD
S006	1-553-997-00	SWITCH, KEY BOARD
S007	1-553-997-00	SWITCH, KEY BOARD
S008	1-553-997-00	SWITCH, KEY BOARD
S009	1-553-997-00	SWITCH, KEY BOARD
S010	1-553-997-00	SWITCH, KEY BOARD
S011	1-553-997-00	SWITCH, KEY BOARD
S012	1-553-997-00	SWITCH, KEY BOARD
S013	1-553-997-00	SWITCH, KEY BOARD
S014	1-553-997-00	SWITCH, KEY BOARD
S015	1-553-997-00	SWITCH, KEY BOARD
S016	1-553-997-00	SWITCH, KEY BOARD
S017	1-553-997-00	SWITCH, KEY BOARD
S018	1-553-997-00	SWITCH, KEY BOARD
S019	1-553-997-00	SWITCH, KEY BOARD
S020	1-553-997-00	SWITCH, KEY BOARD

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●:A-6721-154-A TU-35 BOARD, COMPLETE
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●:3-662-227-00 HOLDER (R-3), LED
●:3-662-228-00 HOLDER (R-1), LED
●:3-675-557-00 CASE (A) (MAIN), SHIELD, TU
●:3-677-905-00 LID, UPPER, SHIELD CASE, TU
●:3-677-906-00 LID, BOTTOM, SHIELD CASE, TU

CAPACITOR

Ref.No.	Part No.	Description			Remark
C001	1-123-356-00	ELECT	10MF	20%	16V
C002	1-161-013-00	CERAMIC	0.01MF	10%	25V
C003	1-123-356-00	ELECT	10MF	20%	16V
C004	1-130-493-00	MYLAR	0.068MF	5%	50V
C005	1-130-493-00	MYLAR	0.068MF	5%	50V
C006	1-102-963-00	CERAMIC	33PF	5%	50V
C007	1-102-529-00	CERAMIC	100PF	5%	50V
C008	1-102-527-00	CERAMIC	82PF	5%	50V
C009	1-102-945-00	CERAMIC	8PF	1PF	50V
C010	1-102-523-00	CERAMIC	56PF	5%	50V
C011	1-102-529-00	CERAMIC	100PF	5%	50V
C012	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C013	1-102-074-00	CERAMIC	0.001MF	10%	50V
C014	1-102-074-00	CERAMIC	0.001MF	10%	50V
C015	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C016	1-101-004-00	CERAMIC	0.01MF		50V
C017	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C018	1-123-381-00	ELECT	2.2MF	20%	50V
C019	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C020	1-123-380-00	ELECT	1MF	20%	50V
C021	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C022	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C023	1-101-004-00	CERAMIC	0.01MF		50V
C024	1-123-380-00	ELECT	1MF	20%	50V
C025	1-101-004-00	CERAMIC	0.01MF		50V
C026	1-161-017-00	CERAMIC	0.022MF	10%	25V
C027	1-123-380-00	ELECT	1MF	20%	50V
C028	1-101-884-00	CERAMIC	56PF	5%	50V
C029	1-102-111-00	CERAMIC	270PF	10%	50V
C030	1-123-296-00	ELECT	220MF	20%	6.3V
C031	1-123-298-00	ELECT	470MF	20%	6.3V
C032	1-123-380-00	ELECT	1MF	20%	50V
C033	1-161-019-00	CERAMIC	0.033MF	10%	25V
C034	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C035	1-123-286-00	ELECT	0.33MF	20%	50V
C036	1-161-013-00	CERAMIC	0.01MF	10%	25V
C037	1-102-525-00	CERAMIC	68PF	10%	25V
C038	1-130-018-00	FILM	0.001MF	5%	50V
C039	1-161-017-00	CERAMIC	0.022MF	10%	25V
C040	1-161-017-00	CERAMIC	0.022MF	10%	25V
C041	1-161-017-00	CERAMIC	0.022MF	10%	25V
C042	1-123-333-00	ELECT	100MF	20%	16V
C043	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C044	1-123-356-00	ELECT	10MF	20%	16V
C045	1-161-008-00	CERAMIC	0.0039MF	10%	25V
C046	1-161-008-00	CERAMIC	0.0039MF	10%	25V
C047	1-161-008-00	CERAMIC	0.0039MF	10%	25V
C048	1-123-356-00	ELECT	10MF	20%	16V
C049	1-123-356-00	ELECT	10MF	20%	16V
C050	1-123-330-00	ELECT	22MF	20%	16V
C051	1-123-330-00	ELECT	22MF	20%	16V
C052	1-123-356-00	ELECT	10MF	20%	16V
C053	1-130-491-00	MYLAR	0.047MF	5%	50V
C054	1-101-004-00	CERAMIC	0.01MF		50V
C055	1-123-332-00	ELECT	47MF	20%	16V
C056	1-123-332-00	ELECT	47MF	20%	16V
C057	1-130-024-00	FILM	0.0033MF	5%	50V
C058	1-130-018-00	FILM	0.001MF	5%	50V
C059	1-161-021-00	CERAMIC	0.047MF	10%	25V
C060	1-161-017-00	CERAMIC	0.022MF	10%	25V
C061	1-123-356-00	ELECT	10MF	20%	16V
C062	1-123-356-00	ELECT	10MF	20%	16V
C063	1-102-525-00	CERAMIC	68PF		
C064	1-102-108-00	CERAMIC	150PF		
C101	1-123-380-00	ELECT	1MF	20%	50V
C102	1-123-356-00	ELECT	10MF	20%	16V
C103	1-102-973-00	CERAMIC	100PF	5%	50V
C104	1-123-356-00	ELECT	10MF	20%	50V
C105	1-130-495-00	MYLAR	0.1MF	5%	50V
C106	1-102-114-00	CERAMIC	470PF	10%	50V
C107	1-123-379-00	ELECT	0.47MF	20%	50V

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description				Remark
C108	1-130-495-00	MYLAR	0.1MF	5%	50V	
C109	1-101-004-00	CERAMIC	0.01MF		50V	
C110	1-101-004-00	CERAMIC	0.01MF		50V	
C111	1-102-963-00	CERAMIC	33PF	5%	50V	
C112	1-102-963-00	CERAMIC	33PF	5%	50V	
C114	1-123-379-00	ELECT	1MF	20%	50V	
C113	1-123-379-00	ELECT	0.47MF	20%	50V	
C201	1-101-004-00	CERAMIC	0.01MF		50V	
C202	1-130-048-00	FILM	220PF	5%	50V	
C203	1-123-356-00	ELECT	10MF	20%	16V	
C204	1-123-356-00	ELECT	10MF	20%	16V	
C205	1-130-482-00	MYLAR	0.0082MF	5%	50V	
C206	1-123-356-00	ELECT	10MF	20%	16V	
C207	1-123-356-00	ELECT	10MF	20%	16V	
C208	1-130-495-00	MYLAR	0.1MF	5%	50V	
C209	1-130-492-00	MYLAR	0.056MF	5%	50V	
C210	1-130-495-00	MYLAR	0.1MF	5%	50V	
C211	1-130-492-00	MYLAR	0.056MF	5%	50V	
C212	1-123-356-00	ELECT	10MF	20%	16V	
C213	1-123-356-00	ELECT	10MF	20%	16V	
C214	1-101-004-00	CERAMIC	0.01MF		50V	
C215	1-123-356-00	ELECT	10MF	20%	16V	
C301	1-123-381-00	ELECT	2.2MF	20%	50V	
C302	1-102-121-00	CERAMIC	0.0022MF	10%	50V	
C303	1-130-495-00	MYLAR	0.1MF	5%	50V	
C304	1-123-318-00	ELECT	33MF	20%	16V	
C305	1-123-318-00	ELECT	33MF	20%	16V	
C306	1-123-356-00	ELECT	10MF	20%	50V	

FILTER

CF001	1-527-840-00	FILTER, CERAMIC
CF002	1-527-839-00	FILTER, CERAMIC
CF101	1-527-932-00	OSCILLATOR, CERAMIC

CONNECTOR

CN001♠:	1-560-468-00	PIN, CONNECTOR 5P
CN002♠:	1-560-470-00	PIN, CONNECTOR 8P
CN101♠:	1-560-468-00	PIN, CONNECTOR 5P
CN102♠:	1-560-469-00	PIN, CONNECTOR 6P
CN103♠:	1-560-471-00	PIN, CONNECTOR 10P
CN104♠:	1-560-591-00	PIN, CONNECTOR 7P
CN105♠:	1-560-466-00	PIN, CONNECTOR 3P
CN201♠:	1-560-456-00	PIN, CONNECTOR 2P
CN202	1-560-466-00	PIN, CONNECTOR 3P
CN203	1-560-470-00	PIN, CONNECTOR 8P
CN204♠:	1-560-456-00	PIN, CONNECTOR 2P
CN301♠:	1-560-468-00	PIN, CONNECTOR 5P

TRIMMER

CT001	1-404-134-00	TRAP, CERAMIC (5.5MHZ)

DIODE

Ref.No.	Part No.	Description	Remark
D101	8-719-911-19	DIODE 1SS119	
D102	8-719-911-19	DIODE 1SS119	
D103	8-719-911-19	DIODE 1SS119	
D104	8-719-911-19	DIODE 1SS119	
D106	8-719-812-31	DIODE TLR123	
D107	8-719-812-31	DIODE TLR123	
D108	8-719-812-31	DIODE TLR123	
D109	8-719-812-32	DIODE TLY123	
D110	8-719-812-33	DIODE TLG123A	
D201	8-719-000-06	DIODE MC921	
D203	8-719-100-35	DIODE RD5.6E-B2	
D301	8-719-100-90	DIODE RD24EB2	
D302	8-719-911-19	DIODE 1SS119	
D303	8-719-100-31	DIODE RD5.1EB3	

IC

IC001	6-066-719-10	IC TDA2541	
IC002	6-066-720-40	IC TDA2546	
IC003	6-066-720-80	IC TDA3800S	
IC004	8-752-006-00	IC CX20060	
IC101	8-759-600-47	IC M50118AP	
IC102	8-759-600-16	IC M5G1400P	
IC103	8-759-157-40	IC UPC574J	
IC104	8-759-600-15	IC M54570L	
IC201	8-759-040-46	IC MC14046BCP	
IC202	8-757-946-00	IC CX-7946	
IC203	8-759-240-66	IC TC4066BP	
IC204	8-759-140-01	IC UPD4001BC	
IC205	8-759-240-75	IC TC4075BP	
IC206	8-759-140-81	IC UPD4081BC	

COIL

L001	1-407-681-00	MICRO INDUCTOR 1UH	
L002	1-408-397-00	MICRO INDUCTOR 1UH	
L003	1-408-397-00	MICRO INDUCTOR 1UH	
L004	1-408-397-00	MICRO INDUCTOR 1UH	
L005	1-408-410-00	MICRO INDUCTOR 12UH	
L006	1-408-403-00	MICRO INDUCTOR 3.3UH	
L007	1-407-681-00	MICRO INDICATOR 1UH	
L008	1-408-403-00	MICRO INDUCTOR 3.3UH	
L009	1-408-397-00	MICRO INDUCTOR 1UH	
L101	1-407-510-00	MICRO INDUCTOR 33MMH	
L102	1-408-409-00	MICRO INDUCTOR 10UH	
L103	1-408-409-00	MICRO INDUCTOR 10UH	
L201	1-407-492-00	MICRO INDICATOR 1MMH	
L301	1-408-420-00	MICRO INDUCTOR 82UH	

TRANSISTOR

Q001	8-729-178-54	TRANSISTOR 2SC2785	
Q002	8-765-300-00	TRANSISTOR 2SC2009	
Q003	8-729-178-54	TRANSISTOR 2SC2785	
Q004	8-729-117-54	TRANSISTOR 2SA1115	
Q005	8-729-117-54	TRANSISTOR 2SA1115	
Q006	8-729-117-54	TRANSISTOR 2SA1115	
Q101	8-729-603-50	TRANSISTOR 2SC403SP	

When indicating parts by reference number, please include the board name.

TU-35

Ref.No.	Part No.	Description	Remark
Q103	8-729-178-54	TRANSISTOR 2SC2785	
Q104	8-729-178-54	TRANSISTOR 2SC2785	
Q105	8-729-117-54	TRANSISTOR 2SA1175	
Q106	8-729-178-54	TRANSISTOR 2SC2785	
Q107	8-729-178-54	TRANSISTOR 2SC2785	
Q108	8-729-178-54	TRANSISTOR 2SC2785	
Q109	8-729-117-54	TRANSISTOR 2SA1175	
Q110	8-729-117-54	TRANSISTOR 2SA1175	
Q111	8-729-117-54	TRANSISTOR 2SA1175	
Q112	8-729-178-54	TRANSISTOR 2SC2785	
Q113	8-729-117-54	TRANSISTOR 2SA1175	
Q201	8-729-178-54	TRANSISTOR 2SC2785	
Q202	8-729-178-54	TRANSISTOR 2SC2785	
Q203	8-729-178-54	TRANSISTOR 2SC2785	
Q204	8-729-178-54	TRANSISTOR 2SC2785	
Q205	8-729-178-54	TRANSISTOR 2SC2785	
Q206	8-729-178-54	TRANSISTOR 2SC2785	
Q207	8-729-178-54	TRANSISTOR 2SC2785	
Q208	8-729-178-54	TRANSISTOR 2SC2785	
Q209	8-729-178-54	TRANSISTOR 2SC2785	
Q210	8-729-178-54	TRANSISTOR 2SC2785	
Q211	8-729-178-54	TRANSISTOR 2SC2785	
Q212	8-729-178-54	TRANSISTOR 2SC2785	
Q301	8-729-178-54	TRANSISTOR 2SC2785	
Q302	8-729-177-32	TRANSISTOR 2SD7734-4	
Q303	8-729-178-54	TRANSISTOR 2SC2785	
Q304	8-729-178-54	TRANSISTOR 2SC2785	
Q305	8-729-988-12	TRANSISTOR 2SA881	

RESISTOR

Ref.No.	Part No.	Description				Remark
R001	1-246-787-00	CARBON	2.2K		1/8W	
R002	1-247-047-00	CARBON	330K		1/8W	
R003	1-246-799-00	CARBON	22K		1/8W	
R004	1-246-791-00	CARBON	4.7K		1/8W	
R005	1-246-790-00	CARBON	3.9K		1/8W	
R006	1-246-775-00	CARBON	220		1/8W	
R007	1-246-779-00	CARBON	470		1/8W	
R008	1-246-775-00	CARBON	220		1/8W	
R009	1-246-807-00	CARBON	100K		1/8W	
R010	1-246-773-00	CARBON	150		1/8W	
R011	1-246-789-00	CARBON	3.3K		1/8W	
R012	1-246-795-00	CARBON	10K		1/8W	
R013	1-246-783-00	CARBON	1K		1/8W	
R014	1-246-803-00	CARBON	47K		1/8W	
R015	1-246-803-00	CARBON	47K		1/8W	
R016	1-246-785-00	CARBON	1.5K		1/8W	
R017	1-246-790-00	CARBON	3.9K		1/8W	
R018	1-246-774-00	CARBON	180		1/8W	
R019	1-246-771-00	CARBON	100		1/8W	
R020	1-246-778-00	CARBON	390		1/8W	
R021	1-246-779-00	CARBON	470		1/8W	
R022	1-246-779-00	CARBON	470		1/8W	
R023	1-246-779-00	CARBON	470		1/8W	
R024	1-246-783-00	CARBON	1K		1/8W	
R025	1-246-775-00	CARBON	220		1/8W	
R026	1-246-780-00	CARBON	560		1/8W	
R027	1-246-769-00	CARBON	68		1/8W	
R028	1-246-775-00	CARBON	220		1/8W	
R029	1-246-783-00	CARBON	1K		1/8W	
R030	1-246-803-00	CARBON	47K		1/8W	
R031	1-246-811-00	CARBON	220K		1/8W	
R032	1-246-783-00	CARBON	1K		1/8W	
R033	1-246-782-00	CARBON	820		1/8W	
R034	1-246-782-00	CARBON	820		1/8W	
R035	1-246-807-00	CARBON	100K		1/8W	
R036	1-246-795-00	CARBON	10K		1/8W	
R037	1-246-795-00	CARBON	10K		1/8W	
R044	1-246-798-00	CARBON	18K		1/8W	
R045	1-246-783-00	CARBON	1K		1/8W	
R038	1-246-799-00	CARBON	22K		1/8W	
R039	1-246-799-00	CARBON	22K		1/8W	
R040	1-246-804-00	CARBON	56K		1/8W	
R041	1-246-782-00	CARBON	820		1/8W	
R042	1-246-782-00	CARBON	820		1/8W	
R043	1-246-788-00	CARBON	2.7K		1/8W	
R101	1-246-801-00	CARBON	33K		1/8W	
R102	1-246-795-00	CARBON	10K		1/8W	
R103	1-246-799-00	CARBON	22K		1/8W	
R104	1-246-799-00	CARBON	22K		1/8W	
R105⚠	1-213-142-00	METAL	820	5%	1W	F
R106	1-246-803-00	CARBON	47K		1/8W	
R108	1-246-787-00	CARBON	2.2K		1/8W	
R109	1-246-787-00	CARBON	2.2K		1/8W	
R110	1-246-785-00	CARBON	1.5K		1/8W	
R111	1-246-784-00	CARBON	1.2K		1/8W	
R112	1-246-799-00	CARBON	22K		1/8W	
R113	1-246-799-00	CARBON	22K		1/8W	
R114	1-246-807-00	CARBON	100K		1/8W	
R115	1-246-785-00	CARBON	1.5K		1/8W	
R116	1-246-791-00	CARBON	4.7K		1/8W	
R117	1-246-801-00	CARBON	33K		1/8W	
R118	1-246-801-00	CARBON	33K		1/8W	
R119	1-246-799-00	CARBON	22K		1/8W	
R120	1-246-777-00	CARBON	330		1/8W	
R121	1-246-801-00	CARBON	33K		1/8W	
R122	1-246-811-00	CARBON	220K		1/8W	
R123	1-246-799-00	CARBON	22K		1/8W	
R124	1-246-807-00	CARBON	100K		1/8W	
R125	1-246-803-00	CARBON	47K		1/8W	
R126	1-246-808-00	CARBON	120K		1/8W	
R127	1-246-809-00	CARBON	150K		1/8W	
R128	1-247-053-00	CARBON	1M		1/8W	
R129	1-247-049-00	CARBON	470K		1/8W	
R130	1-246-807-00	CARBON	100K		1/8W	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
R131	1-246-799-00	CARBON	22K	1/8W	
R132	1-246-801-00	CARBON	33K	1/8W	
R133	1-246-801-00	CARBON	33K	1/8W	
R134	1-246-795-00	CARBON	10K	1/8W	
R135	1-246-795-00	CARBON	10K	1/8W	
R136	1-246-799-00	CARBON	22K	1/8W	
R137	1-246-787-00	CARBON	2.2K	1/8W	
R138	1-246-803-00	CARBON	47K	1/8W	
R139	1-246-787-00	CARBON	2.2K	1/8W	
R140	1-246-803-00	CARBON	47K	1/8W	
R141	1-246-795-00	CARBON	10K	1/8W	
R142	1-246-791-00	CARBON	4.7K	1/8W	
R143	1-246-791-00	CARBON	4.7K	1/8W	
R201	1-246-776-00	CARBON	270	1/8W	
R202	1-246-802-00	CARBON	39K	1/8W	
R203	1-246-864-00	CARBON	51K	1/8W	
R204	1-246-865-00	CARBON	62K	1/8W	
R205	1-246-807-00	CARBON	100K	1/8W	
R206	1-247-051-00	CARBON	680K	1/8W	
R207	1-247-047-00	CARBON	330K	1/8W	
R208	1-246-791-00	CARBON	4.7K	1/8W	
R209	1-246-795-00	CARBON	10K	1/8W	
R210	1-246-775-00	CARBON	220	1/8W	
R211	1-246-803-00	CARBON	47K	1/8W	
R212	1-246-803-00	CARBON	47K	1/8W	
R213	1-246-799-00	CARBON	22K	1/8W	
R214	1-246-807-00	CARBON	100K	1/8W	
R215	1-246-787-00	CARBON	2.2K	1/8W	
R216	1-246-800-00	CARBON	27K	1/8W	
R217	1-246-800-00	CARBON	27K	1/8W	
R218	1-246-795-00	CARBON	10K	1/8W	
R219	1-246-865-00	CARBON	62K	1/8W	
R220	1-246-865-00	CARBON	62K	1/8W	
R221	1-246-795-00	CARBON	10K	1/8W	
R222	1-246-799-00	CARBON	22K	1/8W	
R223	1-246-803-00	CARBON	47K	1/8W	
R224	1-246-799-00	CARBON	22K	1/8W	
R225	1-246-803-00	CARBON	47K	1/8W	
R226	1-246-799-00	CARBON	22K	1/8W	
R227	1-246-799-00	CARBON	22K	1/8W	
R228	1-246-795-00	CARBON	10K	1/8W	
R229	1-246-799-00	CARBON	22K	1/8W	
R230	1-246-795-00	CARBON	10K	1/8W	
R231	1-246-807-00	CARBON	100K	1/8W	
R232	1-246-795-00	CARBON	10K	1/8W	
R233	1-246-807-00	CARBON	100K	1/8W	
R234	1-246-795-00	CARBON	10K	1/8W	
R235	1-246-799-00	CARBON	22K	1/8W	
R236	1-246-801-00	CARBON	33K	1/8W	
R237	1-246-799-00	CARBON	22K	1/8W	
R238	1-246-801-00	CARBON	33K	1/8W	
R239	1-246-799-00	CARBON	22K	1/8W	
R240	1-246-799-00	CARBON	22K	1/8W	

Ref.No.	Part No.	Description				Remark
R241	1-246-843-00	CARBON	910K		1/8W	
R242	1-246-841-00	CARBON	620K		1/8W	
R243	1-246-783-00	CARBON	1K		1/8W	
R301	1-246-835-00	CARBON	200		1/8W	
R302	1-246-853-00	CARBON	6.2K		1/8W	
R303	1-246-779-00	CARBON	470		1/8W	
R304	1-246-773-00	CARBON	150		1/8W	
R305	1-246-763-00	CARBON	22		1/8W	
R306	1-246-799-00	CARBON	22K		1/8W	
R307	1-246-807-00	CARBON	100K		1/8W	
R308	1-246-791-00	CARBON	4.7K		1/8W	
R309	1-246-783-00	CARBON	1K		1/8W	
R310	1-246-779-00	CARBON	470		1/8W	
R311	1-246-459-00	CARBON	270	5%	1/4W	
R312	1-246-835-00	CARBON	200		1/8W	
R313⚠	1-246-981-00	CARBON	4.7	5%	1/8W	F

VARIABLE RESISTOR

RV001	1-226-713-00	RES, ADJ, SOLID 100K
RV002	1-226-772-00	RES, ADJ, SOLID 4.7K
RV201	1-226-709-00	RES, ADJ, SOLID 4.7K
RV202	1-226-708-00	RES, ADJ, SOLID 2.2K

SWITCH

S101	1-552-174-00	SWITCH, PUSH
S102	1-552-174-00	SWITCH, PUSH
S103	1-552-174-00	SWITCH, PUSH
S104	1-552-174-00	SWITCH, PUSH
S105	1-552-174-00	SWITCH, PUSH
S106	1-552-174-00	SWITCH, PUSH
S107	1-552-174-00	SWITCH, PUSH
S108	1-516-226-00	SLIDE SWITCH

FILTER

SF001	6-078-017-40	FILTER (G3201), SAW

TRANSFORMER

T001	1-404-068-00	COIL, VIF
T002	1-404-068-00	COIL, VIF
T003	1-404-264-00	I.F.T
T004	1-404-264-00	I.F.T
T005	1-404-378-00	I.F.T
T006	1-404-135-00	COIL, SIF DISCRI
T007	1-404-135-00	COIL, SIF DISCRI
T008	1-404-343-00	COIL, IF
T301	1-446-571-00	TRANSFORMER, CONVERTOR

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

SW-11 LM-9 RL-4 CI-2 CI-3 LM-8 RL-6 TM-30

Ref.No.	Part No.	Description	Remark
	♠:1-607-770-12	SW-11 BOARD	

DIODE

D401	8-719-911-19	DIODE 1SS119
D402	8-719-911-19	DIODE 1SS119

VARIABLE RESISTOR

RV401	1-228-244-00	RES, VAR, SOLID 100K
RV402	1-228-359-00	RES, VAR, SOLID 5K

SWITCH

S401	1-553-997-00	SWITCH, KEY BOARD
S402	1-553-997-00	SWITCH, KEY BOARD
S403	1-553-754-00	SWITCH, SLIDE
S404	1-553-716-00	SWITCH, SLIDE
S405	1-553-754-00	SWITCH, SLIDE

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	♠:1-605-109-00	LM-9 BOARD

CAPACITOR

C001	1-161-057-00	CERAMIC	0.033MF	10%	50V
C002	1-161-057-00	CERAMIC	0.033MF	10%	50V

DIODE

D001	8-719-911-06	DIODE 1SS106
D002	8-719-911-06	DIODE 1SS106
D003	8-719-911-06	DIODE 1SS106

COIL

L001	1-407-696-00	MICRO INDUCTOR 18UH
L002	1-407-696-00	MICRO INDUCTOR 18UH

SWITCH

S001	1-552-664-00	SWITCH, MICRO

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	♠:1-605-110-00	RL-4 BOARD

* * *

	♠:1-605-111-13	CI-2 BOARD
	1-553-719-00	SWITCH, MICRO
	♠:3-670-039-00	HOLDER (R), CSW

Ref.No.	Part No.	Description	Remark
	♠:1-605-112-14	CI-3 BOARD	
	1-553-719-00	SWITCH, MICRO	
	♠:3-670-038-00	HOLDER (L), CSW	

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	♠:1-605-071-21	LM-8 BOARD

CAPACITOR

C101	1-161-057-00	CERAMIC	0.033MF	10%	50V
C102	1-161-057-00	CERAMIC	0.033MF	10%	50V

COIL

L101	1-408-120-00	MICRO INDUCTOR 18UH
L102	1-408-120-00	MICRO INDUCTOR 18UH

RESISTOR

R101	⚠1-206-640-00	METAL	100	5%	2W	F

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	♠:1-607-772-00	RL-6 BOARD

CONNECTOR

CN501	♠:1-560-471-00	PIN, CONNECTOR 10P
CN502	♠:1-560-591-00	PIN, CONNECTOR 7P
CN503	♠:1-560-459-00	PIN, CONNECTOR 3P
CN504	♠:1-560-459-00	PIN, CONNECTOR 3P
CN505	♠:1-560-455-41	PIN, CONNECTOR 2P
CN506	♠:1-560-455-00	PIN, CONNECTOR 2P
CN507	♠:1-560-455-00	PIN, CONNECTOR 2P
CN508	♠:1-560-455-00	PIN, CONNECTOR 2P
CN509	♠:1-560-466-00	PIN, CONNECTOR 3P
CN510	♠:1-560-459-00	PIN, CONNECTOR 3P
CN511	♠:1-560-455-00	PIN, CONNECTOR 2P
CN512	♠:1-560-460-00	PIN, CONNECTOR 4P

DIODE

D501	8-719-911-19	DIODE 1SS119
D502	8-719-911-19	DIODE 1SS119
D503	8-719-911-19	DIODE 1SS119

RESISTOR

R501	1-246-783-00	CARBON	1K	1/8W

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	♠:1-607-767-00	TM-30 BOARD
	♠:3-675-517-00	HOLDER, INDICATION TUBE

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

CAPACITOR

Ref.No.	Part No.	Description				Remark
C101	1-123-617-00	ELECT	10MF	20%	16V	
C102	1-123-620-00	ELECT	10MF	20%	35V	

DIODE

Ref.No.	Part No.	Description
D101	8-719-151-07	DIODE RD5.1E-B
D102	8-719-182-07	DIODE RD8.2E-B

INDICATOR TUBE

Ref.No.	Part No.	Description
FL101	1-519-269-00	INDICATOR TUBE, FLUORESCENT

IC

Ref.No.	Part No.	Description
IC101	8-759-909-15	IC MSL915RS
IC102	8-759-909-15	IC MSL915RS
IC103	8-759-909-15	IC MSL915RS

RESISTOR

Ref.No.	Part No.	Description		
R101	1-246-801-00	CARBON	33K	1/8W
R102	1-246-807-00	CARBON	100K	1/8W
R103	1-246-807-00	CARBON	100K	1/8W
R104	1-246-807-00	CARBON	100K	1/8W
R105	1-246-807-00	CARBON	100K	1/8W
R106	1-246-807-00	CARBON	100K	1/8W
R107	1-246-807-00	CARBON	100K	1/8W
R108	1-246-807-00	CARBON	100K	1/8W
R109	1-246-807-00	CARBON	100K	1/8W
R110	1-246-807-00	CARBON	100K	1/8W
R111	1-246-807-00	CARBON	100K	1/8W
R112	1-246-807-00	CARBON	100K	1/8W
R113	1-246-807-00	CARBON	100K	1/8W
R114	1-246-807-00	CARBON	100K	1/8W
R115	1-246-807-00	CARBON	100K	1/8W

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●:1-607-768-00 TM-31 BOARD

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●:3-674-372-00 HOLDER (A), LED

CAPACITOR

Ref.No.	Part No.	Description			
C202	1-102-522-00	CERAMIC	51PF	5%	50V
C203	1-123-617-00	ELECT	10MF	20%	16V
C204	1-123-298-00	ELECT	470MF	20%	6.3V
C205	1-161-036-00	CERAMIC	0.047MF	20%	25V

CONNECTOR

Ref.No.	Part No.	Description
CN201	●:1-560-462-00	PIN, CONNECTOR 6P
CN202	●:1-560-469-00	PIN, CONNECTOR 6P
CN203	●:1-560-468-00	PIN, CONNECTOR 5P
CN204	●:1-560-591-00	PIN, CONNECTOR 7P
CN205	●:1-560-456-00	PIN, CONNECTOR 2P
CN206	●:1-560-466-00	PIN, CONNECTOR 3P
CN207	●:1-560-469-00	PIN, CONNECTOR 6P
CN208	●:1-560-468-00	PIN, CONNECTOR 5P
CN209	●:1-560-459-00	PIN, CONNECTOR 3P

DIODE

Ref.No.	Part No.	Description
D201	8-719-911-19	DIODE 1SS119
D214	8-719-911-19	DIODE 1SS119
D215	8-719-911-19	DIODE 1SS119
D216	8-719-911-19	DIODE 1SS119
D217	8-719-911-19	DIODE 1SS119
D218	8-719-812-41	DIODE TLR124

IC

Ref.No.	Part No.	Description
IC201	8-759-903-25	IC MB88401-123M
IC202	8-759-240-71	IC TC4071BP
IC203	8-759-240-71	IC TC4071BP
IC204	8-759-240-71	IC TC4071BP
IC205	8-759-600-18	IC M54847P

COIL

Ref.No.	Part No.	Description
L201	1-407-705-00	MICRO INDUCTOR 100UH

TRANSISTOR

Ref.No.	Part No.	Description
Q201	8-729-178-54	TRANSISTOR 2SC2785
Q202	8-729-178-54	TRANSISTOR 2SC2785
Q203	8-729-117-54	TRANSISTOR 2SA1175
Q204	8-729-178-54	TRANSISTOR 2SC2785
Q205	8-729-117-54	TRANSISTOR 2SA1175
Q206	8-729-178-54	TRANSISTOR 2SC2785
Q207	8-729-178-54	TRANSISTOR 2SC2785
Q208	8-729-178-54	TRANSISTOR 2SC2785
Q209	8-729-178-54	TRANSISTOR 2SC2785
Q210	8-729-117-54	TRANSISTOR 2SA1175
Q211	8-729-178-54	TRANSISTOR 2SC2785
Q212	8-729-178-54	TRANSISTOR 2SC2785
Q213	8-729-117-54	TRANSISTOR 2SA1175

RESISTOR

Ref.No.	Part No.	Description		
R204	1-246-803-00	CARBON	47K	1/8W
R206	1-246-803-00	CARBON	47K	1/8W
R207	1-246-799-00	CARBON	22K	1/8W
R208	1-246-799-00	CARBON	22K	1/8W
R209	1-246-799-00	CARBON	22K	1/8W
R212	1-246-799-00	CARBON	22K	1/8W
R213	1-246-765-00	CARBON	33	1/8W
R221	1-246-783-00	CARBON	1K	1/8W
R227	1-246-799-00	CARBON	22K	1/8W
R228	1-246-799-00	CARBON	22K	1/8W
R229	1-246-799-00	CARBON	22K	1/8W
R230	1-246-799-00	CARBON	22K	1/8W
R231	1-246-799-00	CARBON	22K	1/8W
R232	1-246-799-00	CARBON	22K	1/8W
R233	1-246-799-00	CARBON	22K	1/8W

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
R239	1-246-807-00	CARBON	100K	1/8W	
R241	1-246-801-00	CARBON	33K	1/8W	

TRIMMER

TC201	1-141-022-11	CAP, TRIMMER, CERAMIC

CRYSTAL

X201	1-527-868-00	VIBRATOR, CRYSTAL

****

♠:1-607-769-00 TM-32 BOARD
****

DIODE

D301	8-719-911-19	DIODE 1SS119
D302	8-719-911-19	DIODE 1SS119
D303	8-719-911-19	DIODE 1SS119
D304	8-719-911-19	DIODE 1SS119
D305	8-719-911-19	DIODE 1SS119
D306	8-719-911-19	DIODE 1SS119
D307	8-719-911-19	DIODE 1SS119

SWITCH

S301	1-553-997-00	SWITCH, KEY BOARD
S302	1-553-997-00	SWITCH, KEY BOARD
S303	1-553-997-00	SWITCH, KEY BOARD
S304	1-553-997-00	SWITCH, KEY BOARD
S305	1-553-997-00	SWITCH, KEY BOARD
S306	1-553-997-00	SWITCH, KEY BOARD
S307	1-553-997-00	SWITCH, KEY BOARD
S308	1-553-997-00	SWITCH, KEY BOARD
S309	1-553-997-00	SWITCH, KEY BOARD
S310	1-553-716-00	SWITCH, SLIDE

****

♠:1-608-998-00 SL-2 BOARD
****

SWITCH

S901	1-553-848-21	SWITCH, SLIDE

****

♠:1-607-774-00 HM-1 BOARD
****

	1-507-285-21	JACK
	1-507-902-XX	JACK NUT B
	3-670-164-00	SPACER, JACK
	♠:3-674-399-00	INSULATOR, HM

Ref.No.	Part No.	Description	Remark
	♠:1-608-736-00	CH-33 BOARD ***********	
	♠:3-674-381-00	HOLDER, LED, BS	

DIODE

D501	8-719-812-31	DIODE TLR123
D502	8-719-812-32	DIODE TLY123

SWITCH

S501	1-553-997-00	SWITCH, KEY BOARD
S502	1-553-997-00	SWITCH, KEY BOARD
S503	1-553-997-00	SWITCH, KEY BOARD
S504	1-553-997-00	SWITCH, KEY BOARD
S505	1-553-997-00	SWITCH, KEY BOARD
S506	1-553-997-00	SWITCH, KEY BOARD
S507	1-553-997-00	SWITCH, KEY BOARD
S508	1-553-997-00	SWITCH, KEY BOARD
S509	1-553-997-00	SWITCH, KEY BOARD
S510	1-553-997-00	SWITCH, KEY BOARD
S511	1-553-997-00	SWITCH, KEY BOARD
S512	1-553-997-00	SWITCH, KEY BOARD

****

♠:1-607-775-00 MT-1 BOARD
****

	♠:1-555-716-61	CABLE, PIN

TUNER

TU401	⚠1-463-350-00	TUNER (BT-881)

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MISCELLANEOUS
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1-235-054-00	COIL, SENSOR, S
1-235-055-00	COIL SENSOR, T
⚠ 1-454-281-31	SOLENOID, PLUNGER(BRAKE)
⚠ 1-454-282-11	SOLENOID, PLUNGER(PINCH)
⚠ 1-464-242-00	BOOSTER, MODULATOR (RBM-115-ES)
1-528-097-00	BATTERY, STORAGE, NICKEL CADMIUM
1-552-664-00	SWITCH, MICRO
1-553-539-00	SWITCH, MICRO
1-553-717-00	SWITCH, MICRO
1-553-718-00	SWITCH, MICRO
8-825-508-10	HEAD, FE
8-838-021-21	MOTOR, DC (BHF-1800C)
8-838-027-11	MOTOR, DC (BHF-1901B)

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

ACCESSORIES AND PACKING MATERIALS
****

Part No.	Description	Remark
1-551-513-00	CABLE, COAXAL ASSY	
3-660-986-00	SHEET, PROTECTION	
3-671-873-00	CASE, ACCESSORY	
3-675-575-00	CUSHION (UPPER FRONT)	
3-675-576-00	CUSHION (UPPER REAR)	
3-675-577-00	CUSHION (LOWER FRONT)	
3-675-578-00	CUSHION (LOWER REAR)	
3-675-579-00	BAG, PROTECTION	
3-675-581-00	LID, CASE, ACCESSORY	
3-677-904-00	INDIVIDUAL CARTON	
3-701-007-00	BAND, BINDING	
3-773-025-61	MANUAL, INSTRUCTION	

POWER BLOCK (SR-11E)
****

INCLUDING CD-09(DC-DC CONV)

Ref.No.	Part No.	Description	Remark
	⚠.1-413-105-11	POWER BLOCK (SR11E)	

CAPACITOR

Ref.No.	Part No.	Description	Remark
C601	⚠.1-130-711-00	METALLIZED POLYESTER 0.22MF 250V	
C602	⚠.1-130-711-00	METALLIZED POLYESTER 0.22MF 250V	
C603	⚠.1-161-742-00	CERAMIC 0.0022MF 400V	
C604	⚠.1-161-742-00	CERAMIC 0.0022MF 400V	
C605	⚠.1-161-742-00	CERAMIC 0.0022MF 400V	
C606	⚠.1-161-743-00	CERAMIC 0.0047MF 400V	
C607	⚠.1-161-743-00	CERAMIC 0.0047 400V	
C608	⚠.1-161-742-00	CERAMIC 0.0022MF 400V	
C611	⚠.1-123-311-00	ELECT 200MF 400V	
C612	⚠.1-124-023-00	ELECT 4.7MF 350V	
C613	⚠.1-124-023-00	ELECT 4.7MF 350V	
C614	⚠.1-124-162-00	ELECT 47MF 16V	
C615	⚠.1-124-162-00	ELECT 47MF 16V	
C631	⚠.1-161-910-00	CERAMIC 390PF 500V	
C632	⚠.1-161-910-00	CERAMIC 390PF 500V	
C633	⚠.1-108-409-00	POLYESTER 0.001MF 200V	
C634	⚠.1-123-385-00	ELECT 22MF 100V	
C635	⚠.1-123-324-00	ELECT 1000MF 16V	
C636	⚠.1-123-324-00	ELECT 1000MF 16V	
C638	⚠.1-161-915-00	CERAMIC 0.001MF 500V	
C639	⚠.1-130-516-00	POLYESTER 0.01MF 50V	
C640	⚠.1-130-520-00	POLYESTER 0.022MF 50V	
C642	⚠.1-108-389-00	POLYESTER 0.1MF 100V	
C651	⚠.1-123-324-00	ELECT 1000MF 16V	
C652	⚠.1-123-324-00	ELECT 1000MF 16V	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

SR-11E

Ref.No.	Part No.	Description	Remark
C653	⚠.1-125-310-00	ELECT 470MF	16V
C654	⚠.1-123-324-00	ELECT 1000MF	16V
C655	⚠.1-123-319-00	ELECT 47MF	16V
C656	⚠.1-123-319-00	ELECT 47MF	16V
C657	⚠.1-125-310-00	ELECT 470MF	16V
C658	⚠.1-123-320-00	ELECT 100MF	16V
C659	⚠.1-125-310-00	ELECT 470MF	16V
C660	⚠.1-123-357-00	ELECT 22MF	50V
C661	⚠.1-123-357-00	ELECT 22MF	50V
C662	⚠.1-123-320-00	ELECT 100MF	16V
C681	⚠.1-130-027-00	POLYPROPYELENE 0.0056MF	50V
C682	⚠.1-130-021-00	POLYPROPYELENE 0.0018MF	50V
C683	⚠.1-130-026-00	POLYPROPYELENE 0.0047MF	50V
C684	⚠.1-123-318-00	ELECT 33MF	16V
C685	⚠.1-123-320-00	ELECT 100MF	16V

DIODE

Ref.No.	Part No.	Description	Remark
D601	⚠.8-719-503-06	DIODE S3WB60Z	
D631	⚠.8-719-902-43	DIODE ESAD33-02CS	
D632	⚠.8-719-300-27	DIODE CTV-22S	
D634	⚠.8-719-900-95	DIODE V09G	
D635	⚠.8-719-100-14	DIODE RD3.0E-B1	
D636	⚠.8-719-100-14	DIODE RD3.0E-B1	
D637	⚠.8-719-100-44	DIODE RD7.5E-B2	
D638	⚠.8-719-100-57	DIODE RD10E-B2	
D639	⚠.8-719-815-85	DIODE 1S1585	
D640	⚠.8-719-815-55	DIODE 1S1555	
D651	⚠.8-719-815-85	DIODE 1S1585	
D652	⚠.8-719-100-23	DIODE RD4.3E-B2	
D653	⚠.8-719-815-55	DIODE 1S1555	
D654	⚠.8-719-815-55	DIODE 1S1555	
D655	⚠.8-719-911-55	DIODE U05G	
D681	⚠.8-719-815-55	DIODE 1S1555	
D682	⚠.8-719-100-35	DIODE RD5.6E-B2	
D683	⚠.8-719-100-68	DIODE RD13E-B2	
D684	⚠.8-719-100-87	DIODE RD22E-B3	
D685	⚠.8-719-200-02	DIODE 10E2	

FUSE

Ref.No.	Part No.	Description	Remark
F601	⚠.1-523-237-00	FUSE, TIME-LAG 3.15A 200V	

IC

Ref.No.	Part No.	Description	Remark
IC651	⚠.8-759-171-08	IC UPC7808H	
IC681	⚠.8-759-937-59	IC MB3759	

COIL

Ref.No.	Part No.	Description	Remark
L631	⚠.1-421-545-00		
L632	⚠.1-421-546-00		
L633	⚠.1-421-547-00	10UH	
L634	⚠.1-421-329-00	10UH	
L635	⚠.1-421-421-00	100UH	
L651	⚠.1-421-329-00	10UH	
L652	⚠.1-408-454-00	100UH	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description	Remark
L653	⚠.1-408-421-00	100UH	

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PRINTED CIRCUIT BOARD

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♠:1-593-678-00 C BOARD

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♠:1-593-679-00 D BOARD

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♠:1-593-680-00 F BOARD

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TRANSISTOR

Ref.No.	Part No.	Description	Remark
Q611	⚠.8-729-133-55	TRANSISTOR 2SC2335-L2	
Q612	⚠.8-729-133-55	TRANSISTOR 2SC2335-L2	
Q613	⚠.8-729-102-03	TRANSISTOR 2SD1020	
Q614	⚠.8-729-102-03	TRANSISTOR 2SD1020	
Q631	⚠.8-729-103-43	TRANSISTOR 2SB734	
Q632	⚠.8-729-306-72	TRANSISTOR 2SD677A	
Q651	⚠.8-729-117-54	TRANSISTOR 2SA1175	
Q652	⚠.8-729-178-54	TRANSISTOR 2SC2785	
Q681	⚠.8-729-117-54	TRANSISTOR 2SA1175	
Q682	⚠.8-729-178-54	TRANSISTOR 2SC2785	

RESISTOR

Ref.No.	Part No.	Description			Remark
R601	⚠.1-217-292-00	WIRE WOUND	3.3	5W	F
R611	⚠.1-246-535-00	CARBON	390K	1/4W	
R612	⚠.1-246-535-00	CARBON	390K	1/4W	
R613	⚠.1-212-946-00	FUSIBLE	3.3	1/2W	F
R614	⚠.1-212-946-00	FUSIBLE	3.3	1/2W	F
R615	⚠.1-246-449-00	CARBON	100	1/4W	
R616	⚠.1-246-449-00	CARBON	100	1/4W	
R631	⚠.1-206-475-00	METAL OXIDE	33	2W	F
R632	⚠.1-247-923-00	CARBON	8.2	1/4W	F
R633	⚠.1-535-363-00	SHUNT	0.02	2W	
R634	⚠.1-246-485-00	CARBON	3.3K	1/4W	
R635	⚠.1-246-473-00	CARBON	1K	1/4W	
R636	⚠.1-246-453-00	CARBON	150	1/4W	
R637	⚠.1-246-401-00	CARBON	4.7	1/4W	
R638	⚠.1-246-473-00	CARBON	1K	1/4W	
R639	⚠.1-246-485-00	CARBON	3.3K	1/4W	
R640	⚠.1-244-893-00	CARBON	6.8K	1/2W	
R651	⚠.1-246-489-00	CARBON	4.7K	1/4W	
R652	⚠.1-246-497-00	CARBON	10K	1/4W	
R653	⚠.1-246-481-00	CARBON	2.2K	1/4W	
R654	⚠.1-246-489-00	CARBON	4.7K	1/4W	
R655	⚠.1-246-458-00	CARBON	240	1/4W	
R656	⚠.1-246-481-00	CARBON	2.2K	1/4W	
R681	⚠.1-246-789-00	CARBON	3.3K	1/8W	
R682	⚠.1-246-783-00	CARBON	1K	1/8W	
R683	⚠.1-246-789-00	CARBON	3.3K	1/8W	

Ref.No.	Part No.	Description			Remark
R684	⚠.1-246-798-00	CARBON	18K	1/8W	
R685	⚠.1-246-787-00	CARBON	2.2K	1/8W	
R686	⚠.1-246-801-00	CARBON	33K	1/8W	
R687	⚠.1-246-781-00	CARBON	680	1/8W	
R688	⚠.1-246-790-00	CARBON	3.9K	1/8W	
R689	⚠.1-246-787-00	CARBON	2.2K	1/8W	
R690	⚠.1-246-790-00	CARBON	3.9K	1/8W	
R691	⚠.1-246-793-00	CARBON	6.8K	1/8W	
R692	⚠.1-246-783-00	CARBON	1K	1/8W	
R693	⚠.1-246-795-00	CARBON	10K	1/8W	
R694	⚠.1-246-798-00	CARBON	18K	1/8W	
R695	⚠.1-246-798-00	CARBON	18K	1/8W	

VARIABLE RESISTOR

Ref.No.	Part No.	Description
RV651	⚠.1-228-141-00	RES, ADJ. METAL GLAZE 500
RV681	⚠.1-228-141-00	RES, ADJ. METAL GLAZE 500

RELAY

Ref.No.	Part No.	Description
RY651	⚠.1-515-418-00	RELAY 12V 5A

SWITCH

Ref.No.	Part No.	Description
SW601	⚠.1-553-834-11	PUSH SW 250V 5A/80A

TRANSFORMER

Ref.No.	Part No.	Description
T601	⚠.1-421-481-00	LFT
T611	⚠.1-421-486-00	CHOKE COIL, COMMON
T612	⚠.1-447-282-00	CONV. T
T613	⚠.1-437-120-00	DR. T

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MISCELLANEOUS
`*************`

Part No.	Description
1-533-037-00	HOLDER, FUSE
⚠.1-534-777-31	CORD, POWER

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CD-09 (DC-DC CONV)
`*******************`

CAPACITOR

Ref.No.	Part No.	Description		
C1	⚠.1-123-319-00	ELECT	47MF	16V
C2	⚠.1-161-190-00	CERAMIC	0.001MF	
C3	⚠.1-130-931-00	POLYPRO	0.0068MF	100V
C4	⚠.1-123-356-00	ELECT	10MF	50V
C5	⚠.1-123-356-00	ELECT	10MF	50V
C6	⚠.1-130-491-00	POLYESTER	0.047MF	
C7	⚠.1-130-491-00	POLYESTER	0.047MF	
C8	⚠.1-123-617-00	ELECT	10MF	16V

DIODE

Ref.No.	Part No.	Description	Remark
D2	⚠.8-719-815-85	DIODE 1S1585	
D3	⚠.8-719-101-40	DIODE RD3.9E-L1	

COIL

Ref.No.	Part No.	Description
L1	⚠.1-421-550-00	66UH
L2	⚠.1-421-549-11	36UH
L3	⚠.1-408-575-00	100UH
L4	⚠.1-408-575-00	100UH
L5	⚠.1-408-416-00	47UH
L6	⚠.1-408-571-00	47UH
L7	⚠.1-408-571-00	47UH

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PRINTED CIRCUIT BOARD
`*********************`

●:1-608-212-00 CD.09 BOARD

TRANSISTOR

Ref.No.	Part No.	Description
Q1	⚠.8-729-117-54	TRANSISTOR 2SA1175
Q2	⚠.8-729-177-43	TRANSISTOR 2SD774
Q3	⚠.8-729-178-54	TRANSISTOR 2SC2785
Q4	⚠.8-729-178-54	TRANSISTOR 2SC2785

RESISTOR

Ref.No.	Part No.	Description		
R1	⚠.1-246-789-00	CARBON	3.3K	1/8W
R2	⚠.1-246-811-00	CARBON	220K	1/8W
R3	⚠.1-246-802-00	CARBON	39K	1/8W
R4	⚠.1-246-860-00	CARBON	24K	1/8W
R5	⚠.1-246-805-00	CARBON	68K	1/8W
R6	⚠.1-246-805-00	CARBON	68K	1/8W
R7	⚠.1-246-852-00	CARBON	5.1K	1/8W
R8	⚠.1-246-800-59	CARBON	27K	1/8W
R8	⚠.1-246-802-59	CARBON	39K	1/8W
R8	⚠.1-246-803-59	CARBON	47K	1/8W
R8	⚠.1-246-804-59	CARBON	56K	1/8W
R8	⚠.1-246-861-59	CARBON	30K	1/8W
R8	⚠.1-246-862-59	CARBON	36K	1/8W
R8	⚠.1-246-866-59	CARBON	75K	1/8W
R9	⚠.1-246-771-00	CARBON	100	1/8W

TRANSFORMER

Ref.No.	Part No.	Description
T1	⚠.1-447-383-00	CONV.T

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

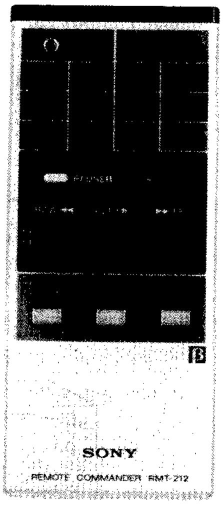
When indicating parts by reference number, please include the board name.

MEMO

RMT-212

SERVICE MANUAL

West Germany Model



November, 1982

SPECIFICATIONS

Remote control unit

Remote control system	Infrared control
Power requirements	3V dc, 2 size AA batteries (IEC designation R6)
Dimensions	Approx. 65 × 150 × 18 mm (w/h/d) ($2^5/_8$ × 6 × $^3/_4$ inches) incl. projecting parts and controls
Weight	Approx. 140 g (5 oz) incl. batteries

REMOTE CONTROL UNIT

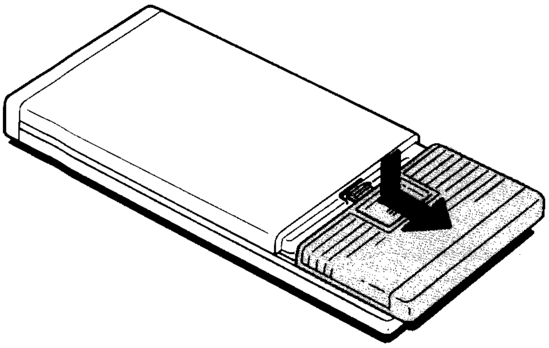
SONY®

1. REMOTE CONTROL OPERATION

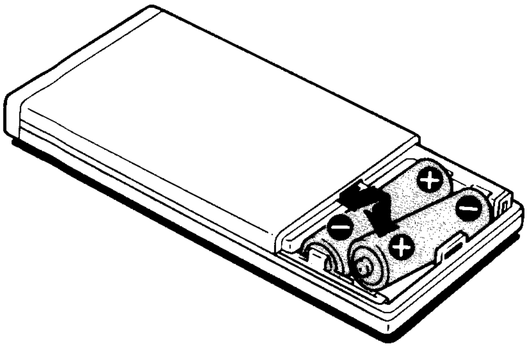
You can control almost all the functions of the SL-C9E video cassette recorder from your armchair using the supplied remote control unit.

BATTERY INSERTION

1. Open the lid.



2. Insert two size AA batteries (IEC designation R6) with correct polarity.



3. Close the lid firmly.

Notes on the remote control unit

- Avoid dropping foreign objects into the cabinet, particularly when replacing batteries.
- Keep the unit away from extremely hot or humid places.
- Avoid mechanical shock to the unit.
- This remote control unit may be used only with the SL-C9E video cassette recorder.

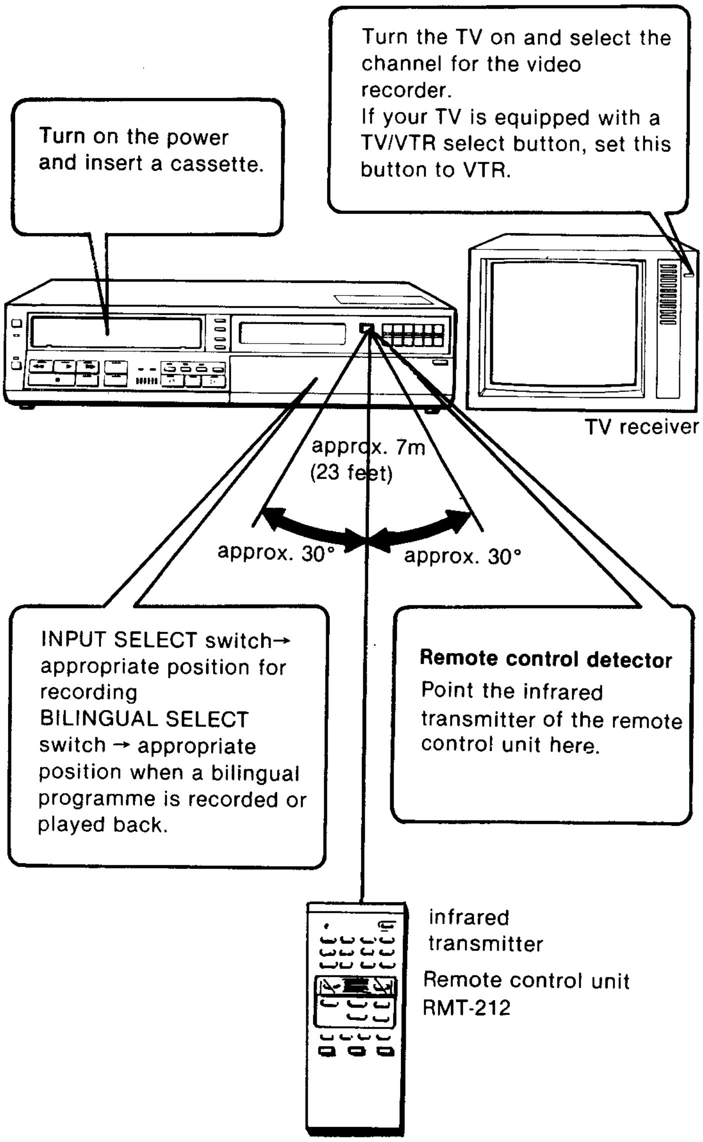
Battery life

In normal operation, batteries will last for about six months. If the range of the remote control unit becomes noticeably short, replace the batteries with new ones. When the batteries are exhausted, the remote function indicator will not light when the buttons on the control unit are pressed.

If the remote control unit is not to be used for a long period of time, remove the batteries to avoid possible damage from battery leakage.

HOW TO USE THE REMOTE CONTROL UNIT

Preparation



Turn on the power and insert a cassette.

Turn the TV on and select the channel for the video recorder.
If your TV is equipped with a TV/VTR select button, set this button to VTR.

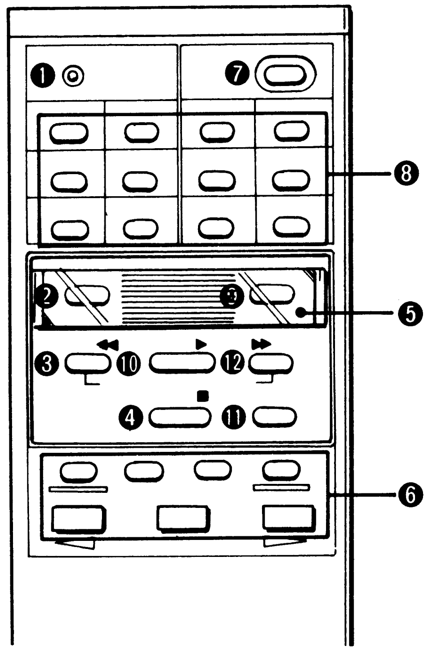
INPUT SELECT switch→ appropriate position for recording
BILINGUAL SELECT switch → appropriate position when a bilingual programme is recorded or played back.

Remote control detector
Point the infrared transmitter of the remote control unit here.

Notes

- There should be no obstacles between the remote control unit and the remote control detector of the recorder.
- The shorter the distance between the remote control unit and the recorder, the wider the angle within which the recorder can be controlled.

Function of the buttons
The buttons on the remote control unit perform the same function as the corresponding buttons on the video recorder.


❶
❷
❸
❹
❺
❻
❼
❽
❿
⓫
⓬

❶ **Remote function indicator**
Lights up when any of the buttons on the remote control unit are pressed.

❷ **PAUSE button**
Press to stop the tape momentarily. To resume the previous mode, press it again.

❸ **REW ◀◀ button**
Press to rewind the tape. Used also for reverse picture search operation during playback.

❹ **■STOP button**
Press to stop the tape.

❺ **Sliding cover**
During playback, slide this cover over the record button to prevent accidental recording. During recording, slide this cover down to prevent accidental interruption of recording.

❻ **SPEED CONTROL buttons**
During playback or double speed playback, first select the playback speed with the FRAME, 1/10, 1/5 or 1 button, then select the playback direction with the ▷ or ◁ button.
- For frame-by-frame playback, press and release the ▷ or ◁ button repeatedly. Keep the button depressed for continuous frame-by-frame playback.

❼ **ON button**
Press to turn the power on. To turn it off, press again.

❽ **Programme select buttons**
Press to select a programme to be viewed or to be recorded.

❾ **REC ● button**
Press to start recording.

❿ **PLAY ▶ button**
Press to play the tape back.

⓫ **×2 button**
Press to obtain a double speed playback picture.

⓬ **▶▶ FF button**
Press to advance the tape rapidly. Used also forward picture search operation during playback.

OPERATION

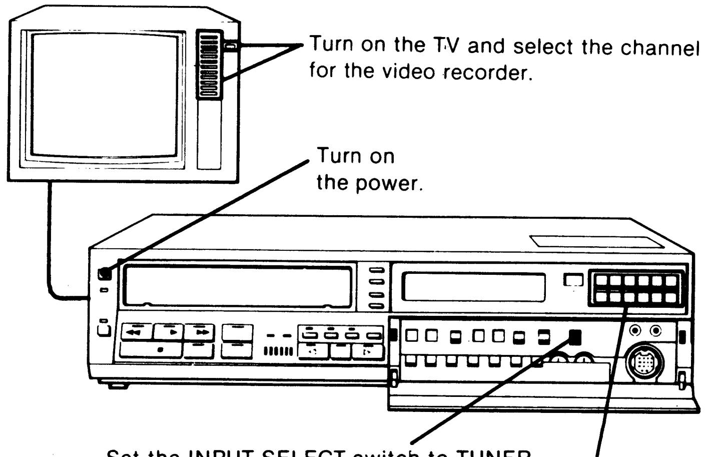
Recording
1. Select the channel to be recorded with the programme select buttons.
2. Press the REC button. The recording will begin.

To stop recording, press the STOP button.

Playback
Press the PLAY ▶ button. Playback will begin.
To stop playback, press the ■ STOP button.

WATCHING TELEVISION

You can watch television in the usual way when recorder is turned off. You will find it convenient to use the recorder to remotely control TV channel selection.



Turn on the TV and select the channel for the video recorder.

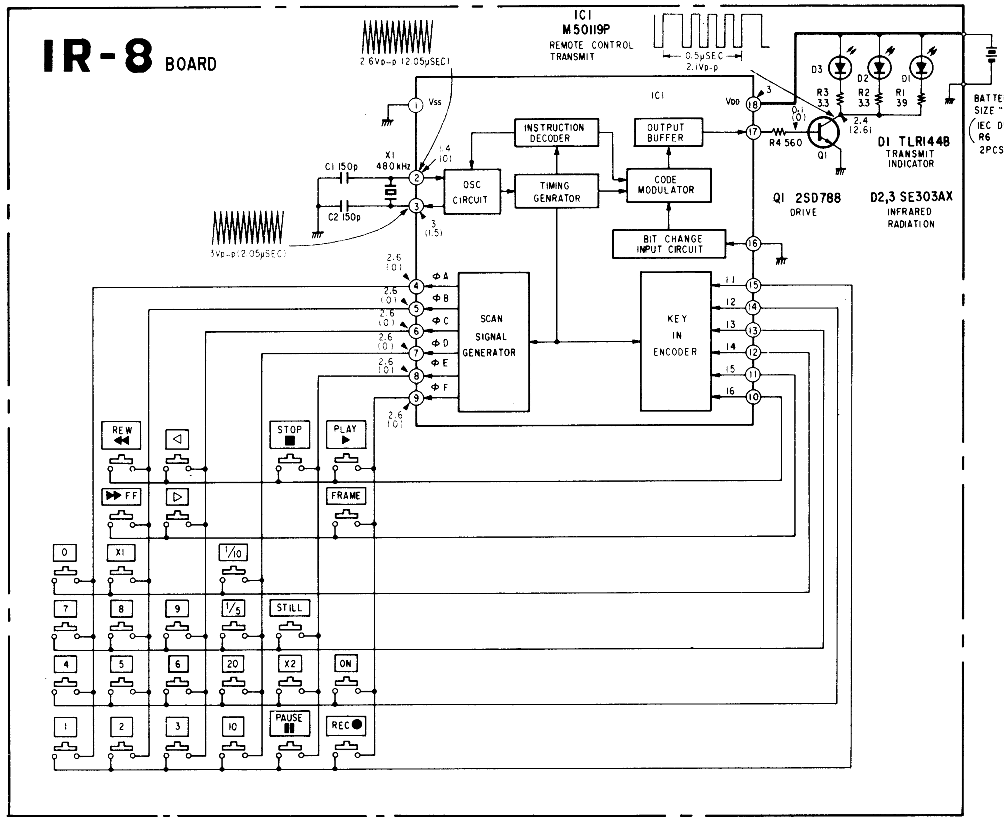
Turn on the power.

Set the INPUT SELECT switch to TUNER.

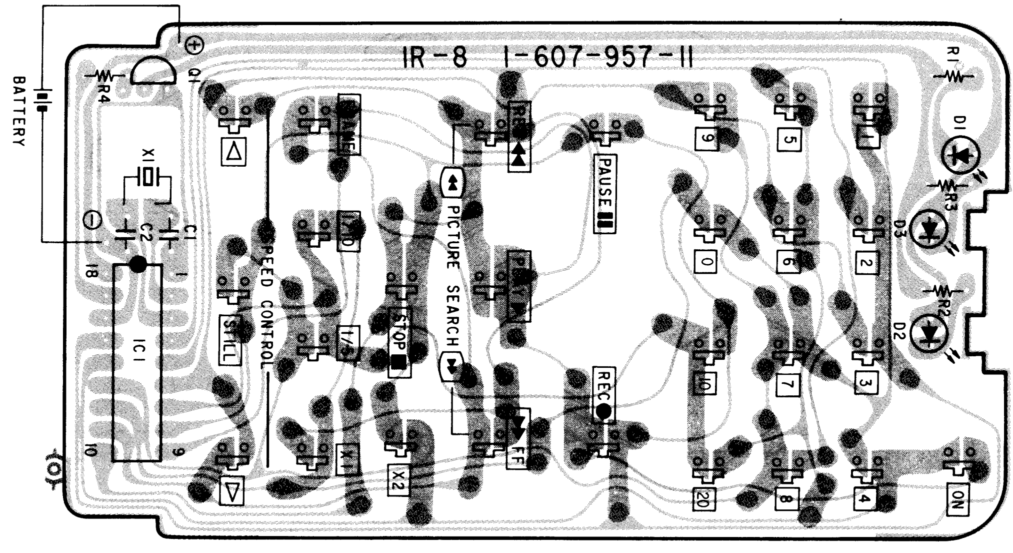
Select the channel.

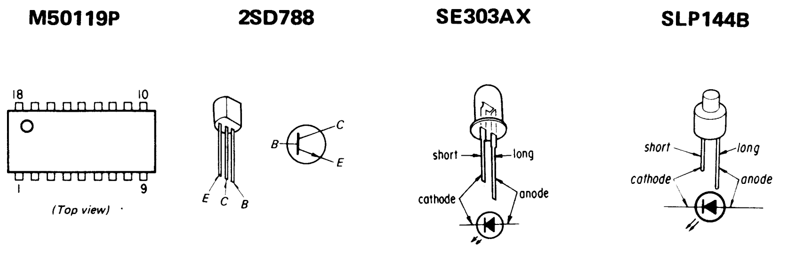
Channel selection is even easier when you use the supplied remote control unit.

2. SCHEMATIC DIAGRAM


A
B
C
D
1
2
3
4
5
IR-8 BOARD
IC1
M50119P
REMOTE CONTROL TRANSMIT
IC1
INSTRUCTION DECODER
OUTPUT BUFFER
OSC CIRCUIT
TIMING GENERATOR
CODE MODULATOR
BIT CHANGE INPUT CIRCUIT
SCAN SIGNAL GENERATOR
KEY IN ENCODER
X1 480kHz
C1 150p
C2 150p
R4 560
Q1
Q1 2SD788 DRIVE
D1 TLR144B TRANSMIT INDICATOR
D2,3 SE303AX INFRARED RADIATION
R3 33
R2 33
R1 39
BATTERY SIZE "AA" (IEC DESIGNATION R6) 2PCS 3V
REW ◀◀
◁
STOP ■
PLAY ▶
▶▶ FF
▷
FRAME
0
X1
1/10
7
8
9
1/5
STILL
4
5
6
20
X2
ON
1
2
3
10
PAUSE ▮▮
REC●
IR-8 1-607-957-11
BATTERY
SPEED CONTROL
PICTURE SEARCH
IC1
D1
D2
D3
R1
R2
R3
R4

3. PRINTED WIRING BOARD

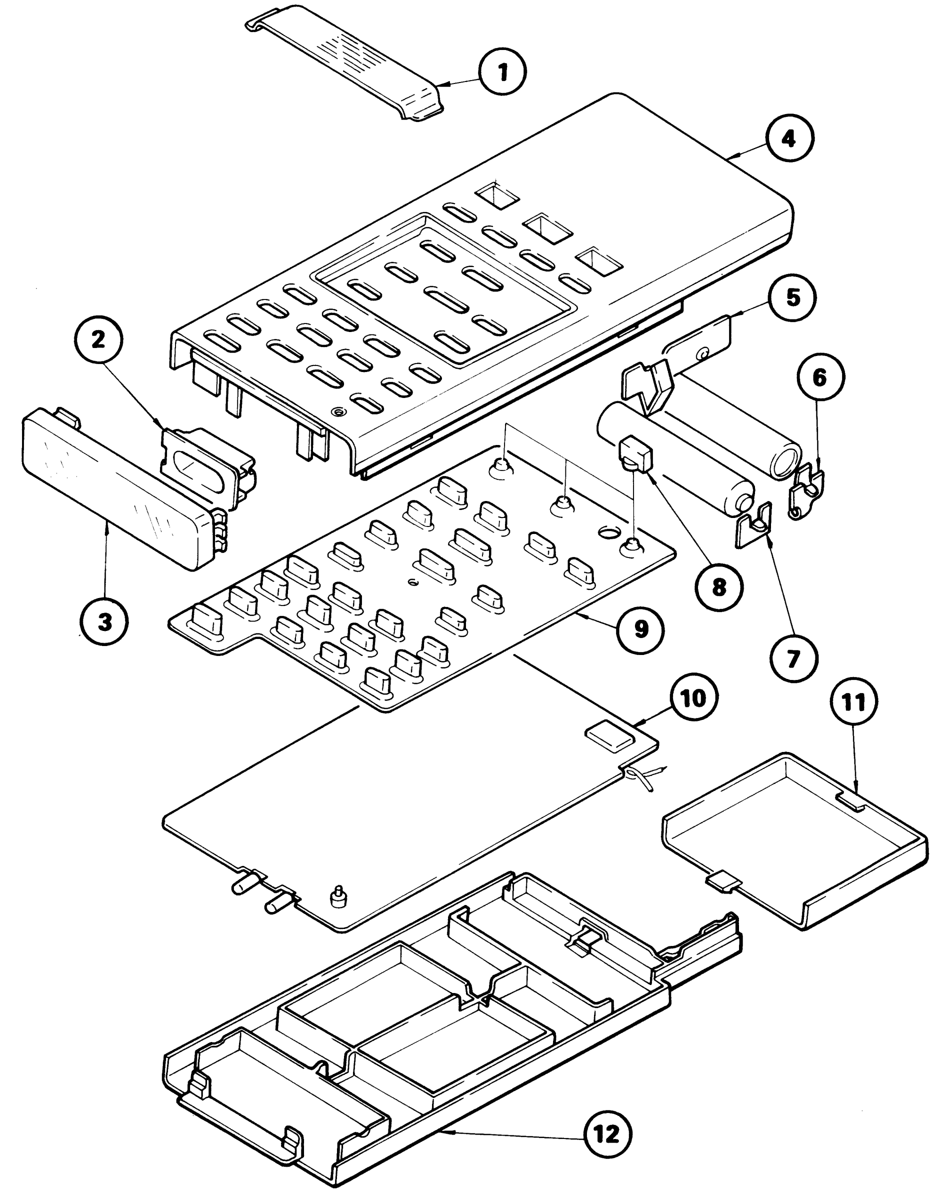



M50119P
2SD788
SE303AX
SLP144B
18
10
1
9
(Top view)
E C B
B
C
E
short
long
cathode
anode

5. EXPLODED VIEW

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ♠ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.



No.	Part No	Description	Remark
1	2-290-603-00	CURSOR	
2	2-298-402-00	MIRROR	
3	2-290-608-00	PLATE, FROSTED	
4	X-2367-401-0	CASE (F) ASSY, UPPER	
5	4-350-925-00	TERMINAL (C), BATTERY	
6	2-290-601-00	TERMINAL (A), BATTERY	

No.	Part No	Description	Remark
7	2-290-602-00	TERMINAL (B), BATTERY	
8	2-290-604-00	PUSH BUTTON	
9	2-367-403-00	SHEET (H), RUBBER	
10	♠:1-607-957-00	IR-8 BOARD	
11	2-290-606-00	COVER, BATTERY	
12	2-290-611-00	CASE, LOWER	

6. ELECTRICAL PARTS LIST

NOTE:

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- =>: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.
- Items marked " ♠ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

CAPACITORS
- MF : μF, PF : μμF

RESISTORS
- All resistors are in ohms
- F : nonflammable

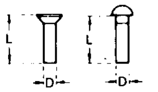
COILS
- MMH : mH, UH : μH

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description				Remark
	1-607-957-00	IR-8 BOARD **********				
	2-290-601-00	TERMINAL (A), BATTERY				
	2-290-602-00	TERMINAL (B), BATTERY				
		CAPACITOR				
C001	1-102-108-00	CERAMIC	150PF	10%	50V	
C002	1-102-108-00	CERAMIC	150PF	10%	50V	
		DIODE				
D001	8-719-901-44	DIODE SLP144B				
D002	8-719-193-03	DIODE SE303AX				
D003	8-719-193-03	DIODE SE303AX				
		IC				
IC001	8-759-600-07	IC M50119P				
		TRANSISTOR				
Q001	8-729-378-84	TRANSISTOR 2SD788				
		RESISTOR				
R001	1-246-766-00	CARBON	39	1/8W		
R002	1-246-753-00	CARBON	3.3	1/8W		
R003	1-246-753-00	CARBON	3.3	1/8W		
R004	1-246-780-00	CARBON	560	1/8W		
		CRYSTAL				
X001	1-527-476-00	OSCILLATOR, CERAMIC				

HARDWARE NOMENCLATURE

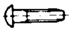
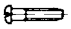
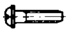
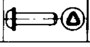
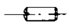
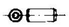
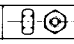
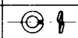
Screw: – P 3 x 10
L: *Length in mm*
D: *Diameter in mm*
Type of head
Indicated slotted-head only.
Unless otherwise indicated, it means
cross-recessed head (Phillips type).



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazier-head screw	

Nut, Washer, Retaining ring:

N 3
Diameter of usable screw or shaft
Reference designation

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

SL-C9E

SONY®

ADJUSTMENT MANUAL

AEP Model
UK Model
E Model

SUPPLEMENT-1

Subject:
- **Adjustment procedures are partly changed accompanying modifications in the audio circuits.**
- **Errors involved in some adjustment procedures are corrected below.**

This supplement updates the adjustment manual to include production changes.

Note: Refer to the SL-C9E adjustment manual for related information not containd in this supplement.

File this supplement with adjustment manual.

MICROFILM

Consumer
VIDEO

(A) SL-C9E

Ser. No. 208,451 – 208,500
224,486 – 226,000
228,945 – 230,300
230,501 – 235,500
235,592 – 240,999

SL-C9UB

Ser. No. 215,501 – 217,000
224,486 – 226,000
228,945 – 241,000

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5-5. ADJUSTMENT OF THE AUDIO SECTION (AM-1 board)

[Connection]

Fig. 5-48 shows how the video tape recorder and measuring instruments should be connected.

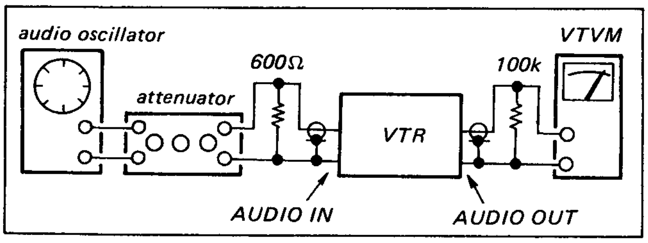

Fig. 5-48. Connection of audio test equipment

(1) Azimuth adjustment . . . . . . See "Mechanical Adjustment"

Note: Part names enclosed with parentheses are adjustment of CH-2.
Set the BNR to OFF during adjustment of the audio system. (except for BNR adjustment)

[Connection]

BNR OFF: Connect the point where R516 and R520 meets to GND with a jumper.

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12. Overall S/N Check (AM-1 board)

(1) Terminate the audio line output terminal by a 100kΩ resistor, and connect up VTVM.
(2) Short the audio input line, and record for 5 seconds, as counted by the tape counter.
(3) Input 333 Hz −10dB signals to the audio input line, and record for 5 seconds, as counted by the tape counter.
(4) Playback the recorded tape, and ensure that the difference in VTVM level between portions (2) and (3) is within the following values.

BNR SW OFF: 34dB min
(for slight BNR effect)
BNR SW ON: 42dB min

(B) SL-C9E, SL-C9UB

Ser. No. 241,001 and later

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5-5. ADJUSTMENT OF THE AUDIO SECTION (AM-1 board)

[Connection]

Fig. 5-48 shows how the video tape recorder and measuring instruments should be connected.

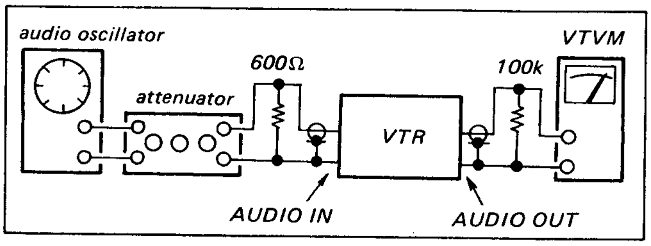

Fig. 5-48. Connection of audio test equipment

(1) Azimuth adjustment . . . . . . See "Mechanical Adjustment"

Note: Part names enclosed with parentheses are adjustment of CH-2.
Set the BNR to OFF during adjustment of the audio system. (except for BNR adjustment)

[Connection]

BNR OFF: Connect TP-520 to GND with a jumper.

4. Bias Trap Adjustment (AM-1 board)

(1) Apply zero signal (zero the audio oscillator's output level with maximum attenuation).

Note: Be sure to tighten the shield case properly when adjusting.

(2) Load a cassette tape and put the recorder in Record mode.
(3) Connect an oscilloscope to TP506 (TP507).
(4) Minimize bias leak with LV501 (LV502).
Requirement: minimum level at 6Vp-p or less.

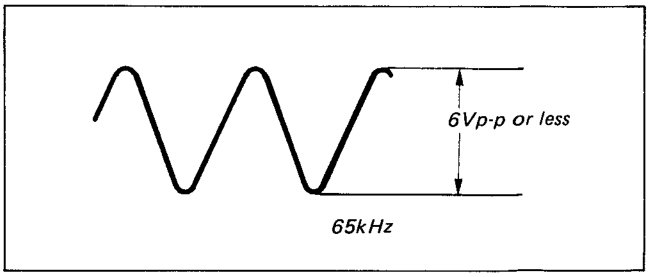

Fig. 5-50. Bias trap adjustment

Page 54

5-6. ADJUSTMENT OF THE TUNER BLOCK (TU-24 board)

2. Stereo ID of Adjustment (TU-24 board)

(1) Input 12.5 Hz –49dB signals to Pin 2 of CN002.

(2) Adjust RV201 until the output level at Pin 7 of IC202 reaches a maximum.

3. Stereo ID Gain Adjustment (TU-24 board)

(1) Input 12.5 Hz –49dB signals to Pin 2 of CN002.

(2) Adjust RV202 until the output level at Pin 7 of IC202 becomes 10 ±0.5dB.

(3) Check the DC level at Pin 3 of IC202 for 2.9V ±0.3V. Also check that the stereo lamp is on.

(C) SL-C9E (Excluding SL-C9UB)
Ser. No. 236,501 and later

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5-5. ADJUSTMENT OF THE AUDIO SECTION (AM-1 board)

2. Playback Level Adjustment (AM-1 board)

(1) Play back 333Hz from the alignment tape and adjust so that the output level is –23 ± 0.3dB with RV508 (RV509).

7. Record Level Adjustment (AM-1 board)

(1) Connect TP500 and ground with a jumper wire so as to turn off the AGC operation.

(2) Supply a 333Hz signal.

(3) Set up the E-E mode and adjust the oscillator output level so that the level meter reading is –40dB.

(4) Record signals.

(5) Play back the recorded section of the tape and check that the output level is –23 ± 0.5dB. If the level is outside this range, repeat Steps (2) through (4) above adjusting with RV506 (RV507) until the standard value is obtained.

(6) Verify that the record current adjustment has been completed.

(7) Remove the jumper wire after making the adjustment.

Page 53

11. Overall Frequency Characteristics Check (AM-1 board)

(1) Terminate the audio line output terminal with a 100kΩ resistor, and connect to VTVM. (Leave AGC turned off.)

(2) Input 333Hz signals to the audio line input terminal. **Note:** Keep BNR turned off.

(3) Adjust the attenuator until VTVM becomes –23dB.

(4) Record for 5 seconds counted by the tape counter.

(5) Repeat (4) by changing the frequency to 50 Hz, 100 Hz, 333 Hz, 7 kHz, and 10 kHz.

(6) Playback the recorded tape, and check the recorded level conforms with the specifications.

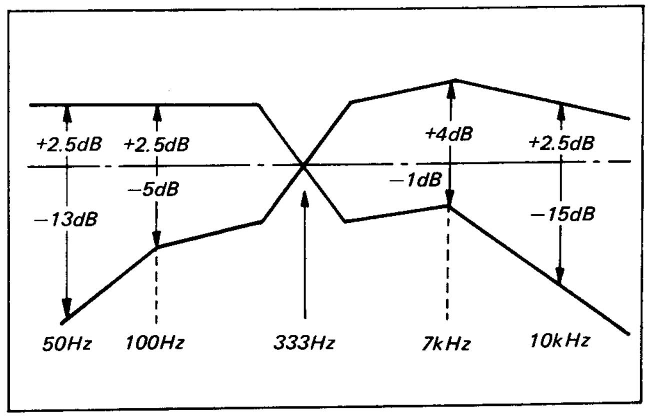

Fig. 5-52. Overall frequency characteristics check

12. Overall S/N Check (AM-1 board)

(1) Terminate the audio line output terminal by a 100kΩ resistor, and connect up VTVM.

(2) Short the audio input line, and record for 5 seconds, as counted by the tape counter.

(3) Input 333 Hz –10dB signals to the audio input line, and record for 5 seconds, as counted by the tape counter.

(4) Playback the recorded tape, and ensure that the difference in VTVM level between portions (2) and (3) is within the following values.

BNR SW OFF: 34dB min
(for slight BNR effect)
BNR SW ON: 42dB min

CORRECTION

• ☛ : corrected portion

4-2. ADJUSTMENT FOR REMOVAL OR REPLACEMENT OF THE ACE ASSEMBLY

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4-2-2. Audio head (ACE assembly) azimuth adjustment ☛

Audio head azimuth affects phase difference of the right and left channels in stereo. Since the track width is one third of monaural, azimuth loss is small when azimuth error is the same. Therefore, only phase adjustment of the two channels is to be performed as azimuth adjustment.

Mode: playback
Signal: alignment tape, color bars, 3kHz
Oscilloscope: CH-1 . . . AUDIO OUT CH1/L terminal
CH-2 . . . AUDIO OUT CH2/R terminal

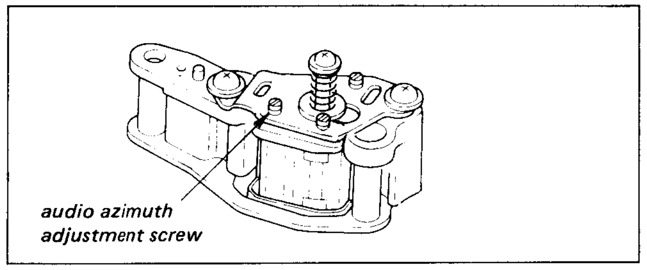
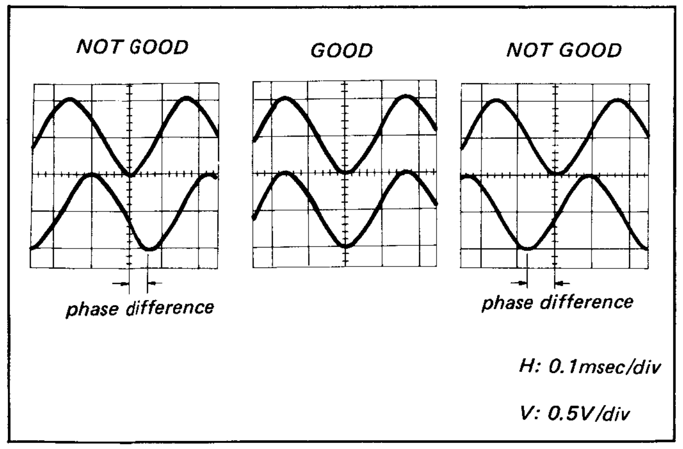

audio azimuth adjustment screw

Fig. 4-12.

Adjustment procedures

1. In dual-beam mode

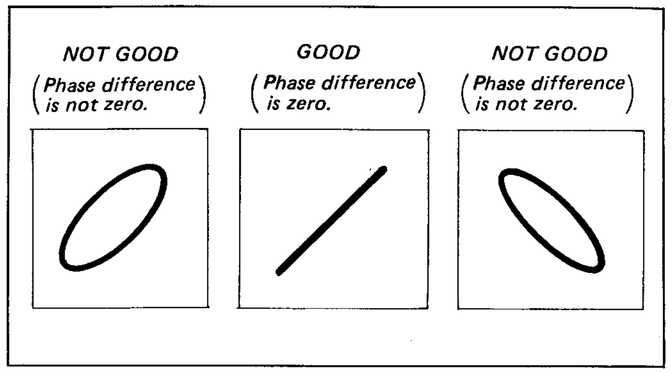
(1) Zero the phase difference of CH-1 and CH-2 signals with the azimuth adjusting screw.


NOT GOOD
GOOD
NOT GOOD
phase difference
phase difference
H: 0.1msec/div
V: 0.5V/div

(2) Requirement on phase difference angle: less than 45°

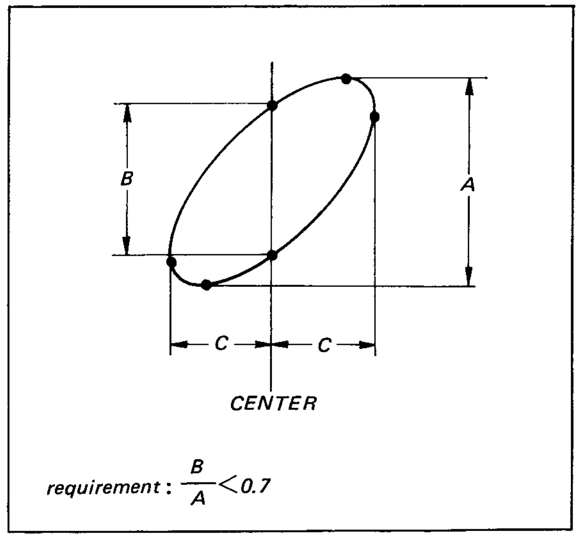
2. In X-Y mode with Lissajous' figures

(1) Zero the phase difference of CH-1 and CH-2 signals with the azimuth adjusting screw.


NOT GOOD
(Phase difference is not zero.)
GOOD
(Phase difference is zero.)
NOT GOOD
(Phase difference is not zero.)

(2) Requirement on phase difference angle: less than 45°

The angle of phase difference is given by $\sin^{-1}$ (B/A). To meet that the angle of phase difference be less than 45°, it is sufficient that $B/A < 0.7$.


B
A
C
C
CENTER
requirement : $\frac{B}{A} < 0.7$

5-5. ADJUSTMENT OF THE AUDIO SECTION (AM -1 board)

Page 53

9. BNR Adjustment (AM-1 board)

(1) Turn on the BNR switch.
(2) Load the cassette tape, and set up the PLAYBACK PAUSE mode.
(3) Apply 1 kHz signals to TP514 and TP515.
(4) Connect VTVM to TP516, Pin 5 of IC506 (TP517, Pin 5 of IC508).
Note: Connect for respective frequencies.
(5) Adjust the attenuator to bring VTVM to –5dB.
(6) Connect VTVM to Pin ④ of IC506 (Pin ④ of IC508). ☛
(7) Adjust RV505 (RV502) to bring VTVM to –5dB.
(8) Adjust the input signal of TP514 (TP515) to 10kHz, and repeat (4), (5) and (6).
(9) Adjust RV504 (RV503) to bring VTVM to –5dB.
(10) Repeat (3) through (6) and (8), and ensure that –5.0 ± 0.5dB is obtained for both 1 kHz and 10 kHz signals.
Where the value is unsatisfactory with process (10), repeat (3) through (9) until a satisfactory value is obtained with process (10).

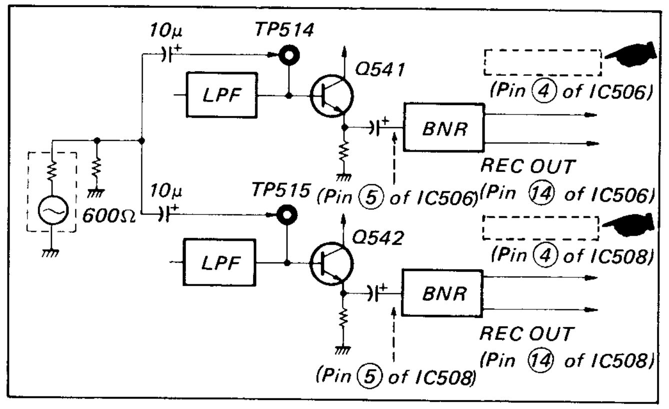

10μ
TP514
Q541
(Pin ④ of IC506)
LPF
BNR
REC OUT
(Pin ⑭ of IC506)
600Ω
10μ
TP515
(Pin ⑤ of IC506)
Q542
(Pin ④ of IC508)
LPF
BNR
REC OUT
(Pin ⑭ of IC508)
(Pin ⑤ of IC508)

Fig. 5-51. BNR adjustment

10. BNR Characteristic Check (AM-1 board)

[Playback]

(1) Disconnect CN001 and turn on the BNR switch.
(2) Input 1 kHz signals to TP514 (TP515).
(3) Load the cassette tape, and set up the PLAYBACK PAUSE mode. (Input signals: 70Hz, 1kHz and 10kHz)
(4) Connect VTVM to TP516, Pin 5 of IC506 (TP517, Pin 5 of IC508).
Note: Connect for respective frequencies.
(5) Adjust the attenuator to bring VTVM to –35dB.
(6) Connect VTVM to Pin ④ of IC506 (Pin ④ of IC508). ☛
(7) Execute (3) through (6) for respective frequencies, and ensure that VTVM levels are as follows.

TP514 (TP515) input signal	LINE OUT CH-1 (CH-2) output signal
70Hz	–45.5dB ± 2.0dB
1kHz	–50.4dB ± 2.0dB
10kHz	–57.8dB ± 3.0dB

[Recording]

(1) Turn on the BNR switch.
(2) Set up the STOP mode, and set the INPUT SELECT switch to LINE.
(3) Input 70Hz, 1 kHz and 10 kHz signals to TP514 (TP515).
(4) Connect VTVM to TP516, Pin 5 of IC506 (TP517, Pin 5 of IC508).
(5) Adjust the attenuator until VTVM level becomes –35dB.
Note: Make this adjustment for each input frequency.
(6) Connect VTVM to Pin 14 of IC506 (Pin 14 of IC508).
(7) Execute (3) through (6) for all input frequencies, and ensure that the VTVM levels are as shown below.

TP514 (TP515) input signal	LINE OUT CH-1 (CH-2) output signal
70Hz	–26.0dB ± 2.0dB
1kHz	–22.9dB ± 2.0dB
10kHz	–23.9dB ± 2.0dB

Sony Corporation
Consumer Products Group
Technical Support Dept.

English
83A0492-1
Printed in Japan
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